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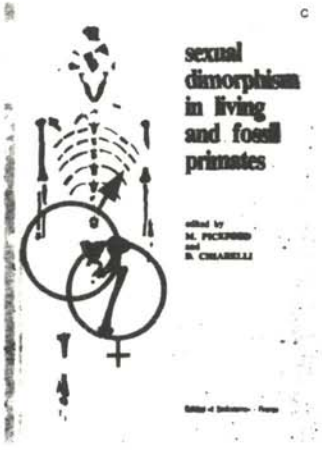

sexual dimorphism in living and fossil primates

edited by
M. PICKFORD - B. CHIARELLI

Variation is the raw material of the palaeontologist; without it there would be no evolution. How to interpret variation in a sample is also the palaeontologist's biggest headache. In the Primates, as in numerous other groups, a major source of variation is sexual dimorphism. In this book several authors examine variation due to sexual differences in living primates and apply their findings to interpreting the fossil record. Their reports indicate that investigators must consider the role of dimorphism in their studies. To ignore sex is to ignore one of the major causes of variability.

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Cover Picture: Indian attempts to improve the quality of life, as reflected in the faces of the children in this classroom, continue to be negated by the ongoing failure of government fertility control programs. (See article: *The Indian Government Program for Sterilization: A Case Study in Uttar Pradesh*)

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WAR AND PEACE IN PRIMITIVE HUMAN SOCIETIES: THE EFFECTS OF EXOGAMY

UMBERTO MELOTTI
University of Pavia, Italy

The practice of exogamy, whereby geographically separate bands or clans customarily intermarry, not only serves economic and political functions, as anthropologists normally stress, it also serves an evolutionary and biological function – preventing warfare between groups which share the same gene pool.

The existence of significant intergroup conflicts in primitive human societies – in particular, war and warlike activities – has been long discussed by scholars of different disciplines. However, the conclusions of these scholars – anthropologists, sociologists, psychologists, and ethnologists – are far from unanimous.

Some of them affirm the basically peaceful character of primitive human groups, in particular food gatherers and hunters (e.g. Montagu, 1976: 164-192, and the worker cited by him), and suggest that our prehistoric ancestors, although capable of aggressive behavior, generally must have led peaceful lives and must have been highly cooperative and deeply interested in the welfare of their fellow men (e.g. Montagu, 1976: 182). In contrast, other scholars have denounced "the myth of the aggression-free societies of food gatherers and hunters" (Eibl-Eibesfeldt, 1974a: 435-437; also see Eibl-Eibesfeldt, 1974b) and have presented good evidence of intra-group and inter-group conflicts in both contemporary and prehistoric primitive human populations, food gatherers and hunters not by any means excluded. On this basis they have strongly refuted "the neo-Rousseauist view" that Palaeolithic food gatherers and hunters were peaceful creatures, in accordance with the thesis of man's original "good" nature, and that armed conflicts first appeared in Neolithic times with the developments of agriculture and stock breeding (Eibl-Eibesfeldt, 1979: 170).

Nonetheless, this view as well seems to be affected by a strong ideological bias. The idea that war has been an eternal feature of human societies implies (or at least suggests) the existence of an innate instinct to kill one's own kind – an instinct which was previously advocated by Raymond Dart (1953) and Robert Ardrey (1961) (though Eibl-Eibesfeldt, who expressed this view with particular cogency, did not invoke

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such an instinct, but only pseudospeciation, development of culture and other social and cultural factors). Moreover, to show the alleged warlike character of all human populations, these scholars overlook the profound differences in intergroup conflicts at diverse levels of social organization and among diverse types of groups. In effect, there is good evidence that, between some groups, aggression is present only in highly ritualized forms, while between others it is cruel, bloody and destructive. Furthermore, war and warlike activities, though not absent in gathering-hunting societies, as some authors have erroneously assumed, have increased both in frequency and in destructive power with the growth of productive forces, the development of the division of labor, the emergence of hierarchial stratification, the formation of social ranks and social classes and the establishment of some forms of centralized authority.

Biological concepts are not therefore sufficient to analyse war, even in its most primitive forms. An interdisciplinary approach is needed. Nevertheless, sociobiological theory can contribute to a reassessment of this issue by providing an important conceptual framework for the available ethological, palaeoanthropological and ethnological data. With this conviction, I would try to put forward some suggestions in the light of my previous research on the sociobiological determinants of primitive social organizations.

Some Sociobiological Considerations on War and Warlike Activities in Primitive Human Societies

First of all, I would like to emphasize that intergroup competition seems to have been a counterpart to intra-group cooperation ever since our most remote origins (Melotti, 1986a). However, intergroup competition need not degenerate into warfare.

The peaceful or warlike character of intergroup competition primarily depends upon the ecological conditions and economic factors, as well as upon the type of social structures in the groups involved. Quincy Wright, in his classic *Study of War* (1942), pointed this out clearly: the higher hunters and lower agriculturalists are more warlike than the food gatherers, lower hunters and horticulturalists, and pastoralists and the higher agriculturalists are more warlike than the higher hunters and lower agriculturalists. Similarly, Morton Fried (1967: 214) observed that "the frequency of war increases in relation to

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the complexity of the society": it is more intense in chiefdom than in tribal societies, more intense in primitive state-like societies than in chiefdoms, and more intense in complex societies of modern times than in primitive states. In effect, bellicosity seems to reach its maximum in contemporary complex societies.

Archaeological findings do not support the assumption of large-scale war acitivities among Paleolithic bands and tribes. Moreover, very low population densities, the small size of the human groups, their loose social organization and dispersal over very large areas must have made such conflicts unlikely or at least infrequent.

Nevertheless, as some scholars have suggested, intergroup conflicts could have been instigated even in Paleolithic times by competition for critical resources; for instance, drinking water, big game, and vegetable food (Bigelow, 1969; Eibl-Eibesfeldt, 1979), or even women, the highly strategic "goods" that alone could convert the other resources controlled by the groups into offspring (Borgia, 1980).

The available data show that intergroup conflicts tend to assume a destructive character when they become battles to conquer or defend a territory. On the other hand, sociobiological theory suggests that such conflicts may only take place regularly when their benefits outweigh their costs – both costs and benefits being measured in terms of inclusive fitness. This occurs when the resources present within an area are rare, defensible, predictable and concentrated (Dyson-Hudson & Smith, 1978). Such situations are not unknown to food gatherers, but become much more frequent with the impressive social and economic changes due to the Neolithic revolution – i.e. the development of agriculture and stock breeding, the passage to sedentary life and the emergence of villages and towns.

We should also remember that, at least from Upper Paleolithic times, human bands probably practised exogamy, the custom forbidding marriage within one's own group. Indeed, this custom seems to be very ancient (see Melotti, 1979, and Lopreato, 1984), and some scholars (see, e.g., Reynolds, 1976, and Psuey, 1980) provide data even suggesting its infra-human foundation in the behavior of some species of primates. Exogamy entails important gene exchange between neighboring groups, and this seems to rule out the hypothesis of continual

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destructive wars between them. A population could hardly survive if its member groups strived to exterminate each other despite the fact that they to a large extent shared identical genes by common descent (Melotti, 1979, 1980, 1981, 9182, 1984a, 1984b, 1985, 1986a, 1986b, 1986c). Moreover, under exogamous conditions the migration rate between the groups (up to 50% per generation) is far too high for group selection to be effective (Borgia, 1980, and Melotti, 1984b).

This situation changed with the Neolithic revolution. The development of agriculture and stock breeding allowed human populations to grow and expand. Territorial agression became common, both against the remnants of ancient gathering and hunting populations (which were displaced into marginal areas) and between genetically unrelated groups of herders and cultivators. Later on populations enlarged even more, mixed peoples moved to towns and emigration to better lands and farther fields diluted or demolished the old social units consisting mostly of closely related individuals. Therefore, this type of intergroup aggression could spread almost without any biological limit and control.

The Effects of Exogamous and Endogamous Rules

Finally, I would like to expand upon the effects of exogamous and endogamous rules on intergroup conflict – a theme that has been completely overlooked by recent research on the biological bases of peace and war. Indeed, you do not even find the words "exogamy" and "endogamy" in the subject indexes of such important books on war and aggression as Erich Fromm's *Anatomy of Human Destructiveness* (1973), Ashley Montagu's *Nature of Human Aggression* (1976), and Irenäus Eibl-Eibesfeldt's *Biology of Peace and War* (1979), not to mention the remarkable collective work *On the Causes and Correlates of War* edited by M. A. Nettleship *et al.* (1975).

This is a rather strange fact, since the relevance of this custom for peace and war in primitive peoples had already been pointed out by one of the founding fathers of cultural anthropology, Edward B. Tylor (1889). Exogamy, according to him, was an extraordinary factor of peace, for it developed a bond of solidarity between the groups by making them dependent on each other for wives and children.

The peace-preserving effects of exogamy have been overlooked by both ethologists and sociobiologists, probably because

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Tylor himself, as well as almost all the other subsequent anthropologists, had treated it as a merely cultural rule, without considering its latent biological function. This error — to point out a surprising fact — was repeated by Robin Fox, one of the founders of so-called "bio-social anthropology". In effect, in his valuable book on *Kinship and Marriage*, Fox (1967) analysed the effects of exogamy on intergroup relationships, but only in psychological terms. Making a transparent allusion to a passage of the Bible (*Genesis*, xxxvi, 16), which had already been used by Tylor himself, he wrote: "You would not try to exterminate a band whose wives were your daughters and whose daughters were your potential wives; you would be in one sense, at least, 'one people'; you would be dependent on each other for your continuity and survival".

Exogamy, however, has not only psychological effects; it also has very important biological effects, far from being only an "exchange of women", as it is usually defined by cultural anthropologists, exogamy is also, and basically, an exchange of genes. Therefore, it does not serve a merely economic function, as some well-known anthropologists have suggested, by stating that in this exchange women are treated only as a kind of goods (Frazer, 1918, Levi-Strauss, 1949 and 1956, and Fox, 1967). It also serves a primary biological function.

As I have already mentioned, a population could hardly survive if its groups (usually bands, among hunter-gatherers, or clans or moieties, or parts of the latter, among horticulturalists) tried to exterminate each other regardless of the fact that they to a considerable extent shared the same gene pool.

Exogamy is practised mainly between bands of the same nexus or between clans or moieties of the same tribe, while it is hardly practised between nexuses or tribes. In effect, nexuses and tribes usually observe the opposite rule of endogamy (which obliges one to marry within one's own unit). This fact is consistent with ethnological data on war and warfare in simple societies, for primitive peoples make a clear distinction, as far as these activities are concerned, between related and not related groups. Usually it is members of the latter groups that they try to kill, while with members of the former they fight only in highly ritualized ways, being careful to avoid battles that could result in excessive bloodshed.

This is not surprising. In segmentary groups — i.e. groups that are not linked with other groups by the effects of the

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division of labor – exogamy is the hidden structure of social solidarity (Melotti, 1980). Therefore, to explain the existence of friendship relationships between them, it is not necessary to invoke either the "original goodness of man", following Rousseau, or the mythical "mechanical solidarity", following Durkheim, who attributed it to their "uniformity". In effect – to use more literally the expression that Durkheim (1893) reserved for solidarity arising from the division of labor – solidarity among these groups is quite "organic". This fact is also most interesting from a theoretical point of view. As it implies an exchange of genes – the basic units of biological reproduction – exogamy appears to be the true archetype of reciprocity, which Levi-Strauss (1949) and other anthropologists have striven to find at other less general and less significant levels.

REFERENCES

Ardrey, Robert
1961 African Genesis. New York: Atheneum.
Bigelow, Robert
1969 The Dawn Warriors: Man's Evolution Toward Peace. Boston: Atlantic Monthy Press, Little, Brown.
Borgia, Gerald
1980 "Human aggression as a biological adaptation". In: J.S. Lockard (ed.), The Evolution of Human Social Behavior, pp. 165-185. New York: Elsevier.
Dart, Raymond
1953 "The predatory transition from ape to man". In: *International Anthropological and Linguistic Review* 1: 201-218.
Durkheim, Emile
1893 De la division du travail social. Paris: Alcan.
Dyson-Hudson, R. and E. A. Smith
1978 "Human territoriality: An ecological reassessment". In: *American Anthropologist* 80 (1): 21-24.
Eibl-Eibesfeldt, Irenäus
1974a "The myth of the aggression-free hunter and gatherer society". In: R. L. Holloway (ed.), Primate Aggression, Territoriality and Xenophobia, pp. 435-437. New York: Academic Press.
1974b Grundriss der vergleichenden Verhaltensforschung. Ethologie. München: Piper. 4th edition.
1979 The Biology of Peace and War. London: Thames & Hudson.
Fox, Robin
1967 Kinship and Marriage. An Anthropological Perspective. Harmondsworth: Penguin Books.

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ELECTRONIC REPRODUCTION PROHIBITED

Frazer, James George
1918 Folk-lore in the Old Testament. London: Macmillan.
Fried, Morton H.
1967 The Evolution of Political Society. New York: Random House.
Fromm, Erich
1973 The Anatomy of Human Destructiveness. New York: Holt, Rinehart and Winston.
Lévi-Strauss, Claude
1949 Les structures elementaires de la parente. Paris: Presses Universitaires de France.
1956 "The Family". In: H. L. Shapiro (ed), Man, Culture and Society, pp. 261-285. London: Oxford University Press.
Lopreato, Joseph
1984 Human Nature and Biocultural Evolution. Boston: Allen & Unwin.
Melotti, Umberto
1979 L'uomo tra natura e storia. La dialettica delle origini. Milano Centro Studi Terzo Mondo.
1980 "Towards a new theory of the origin of the family: Some hypotheses on monogamy, polygyny, incest taboo, exogamy, and genetic altruism". In: *The Mankind Quarterly* 21 (2): 99-133.
1981 "Toward a new theory of the origin of the family". In: *Current Anthropology* 22 (6): 625-638.
1982 "Oltre la sociobiologia. Verso una nuova scienza unitaria dell 'uomo e della societa". In: M. Ingrosso, S. Manghi and V. Parisi (eds.), Sociobiologia possibile, pp. 35-68. Milano: Angeli.
1984a "A sociobiological interpretation of the structures and functions of the human family". In: *Journal of Human Evolution* 13 (1): 81-90.
1984b "The origin of human aggression: A new evolutionary view". In: *The Mankind Quarterly* 24 (4): 379-391.
1985 "Competition and cooperation in human evolution". In: *The Mankind Quarterly* 25 (4): 323-352.
1986a "In-group/out-group relations and the issue of group selection". In: V. Reynolds, V. Falger and I. Vine (eds.), The Sociobiology of Ethnocentrism. Evolutionary Dimensions of Xenophobia, Discrimination, Racism and Nationalism, pp. 94-111. London – Sidney: Croom Helm.
1986b "On the evolution of human aggressiveness". In: J. Wind and V. Reynolds (eds.), Essays in Human Sociobiology, vol. 2, pp. 69-81. Brussels: Vrije Universiteit.
1986c "Sociobiologia e organizzazione sociale: il caso delle societa primitive". In: S. Manghi and V. Parisi (eds.), La dimensione bioculturale: evoluzionismo e scienze dell'uomo oltre la sociobiologia, pp. 72-102. Milano: Centro Studi Terzo Mondo.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Montagu, Ashley
1976 The Nature of Human Aggression. New York: Oxford University Press.
Nettleship, M. A., *et al.* (eds.)
1975 War: Its Causes and Correlates. Den Haag – Paris: Mouton.
Pusey, A. E.
1980 "Inbreeding avoidance in chimpanzees". In: *Animal Behaviour* 28: 543-552.
Reynolds, Vernon
1976 The Biology of Human Action. San Francisco: Freeman.
Tylor, Edward B.
1889 "On a method of investigating the development of institutions, applied to the laws of marriage and descent". In: *Journal of the Anthropological Institute* 18: 245-272.
Wright, Quincy
1942 The Study of War. Chicago: University of Chicago Press. (2nd ed. 1965).

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EVOLUTION, ALTRUISM AND GENETIC SIMILARITY THEORY

J. PHILIPPE RUSHTON
University of Western Ontario

The author reviews his work on altruism, offering a time continuum for understanding levels of explanation in social behavior, showing that individual differences in both prosocial and antisocial behavior are about 50% heritable, and outlining how epigenetic rules guide development in one direction over alternatives. He also presents "genetic similarity theory," showing that humans are able to detect degrees of genetic simiarity in others and to prefer those most similar for friendship and marriage, a process which provides a basis for ethnic favoritism and group selection.

Numerous confusions have occurred in the behavioral sciences as a result of not separating distal from proximal levels of explanation (see Figure 1). When reasoning moves from distal to proximal, controversy does not ensue. Evolutionary biologists do not find the heritability of traits problematic; trait theorists accept that dispositions are modified by later learning, and learning theorists believe that the products of early experiences interact with subsequent situations to produce emotional arousal and cognition. Resistance is more likely, however, as explanations move from proximal to distal. Thus some phenomenologists mistrust the reduction that consciousness is partly the result of previous learning. Situationists and learning theorists do not always accept that people's choices and development may be guided by inherited traits. Often behavioral geneticists ignore evolutionary history.

Behavior can be analyzed usefully from each of the levels. It is well established that situations are important sources of behavioral variability, as when mood changes of happiness and anger alter people's altruism and aggression (Rushton, 1980). People can also be shown to differ, however, in average mood state. It is at this stage of the analysis that conceptual problems have occurred for some have found it difficult to see that if people alter their behavior with varying circumstances, they can be said to have enduring characteristics that reliably differentiate them from others. Indeed, there has been considerable debate in psychology about the degree to which "traits" relia-

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bly differentiate people. Social learning theorists, for example, have emphasized people's ability to modify their behavior across different situations. It is now known, however, that when people's behavioral responses are aggregated across numerous situations substantial average differences are found between people (Rushton, Brainerd & Pressley, 1983).

Social groups (age, sex, socio-economic, race) often differ in average traits scores, although it has become fashionable to deemphasize these. As with traits generally, group differences are best observed when several particulars are aggregated. This was recently shown in an analysis of questionnaire data gathered from 573 pairs of twins. Females have been found to be significantly more altruistic and empathic (and less aggressive) than males, and altruism had been found to increase with age from 20 to 60, while aggression decreased. These observations would have been missed if the analyses had relied on single items, for the variance accounted for by sex differences increased from 1 to 3 to 8 percent as the number of questionnaire items increased from 1 to 5 to 23 (Rushton & Erdle, 1987). Parallel results were found to occur when age and socio-economic status differences were examined. Combining age, sex and socio-economic status in a multiple regression equation, again differentiating a 1 to 23 item scale, led the multiple R to increase from an average of 0.18 for single items to 0.39 for the 23 items.

The origin of behavioral differences are consistently found to be about 50% heritable, even for traits such as altruism and aggression which parents are expected to socialize heavily. Too many assessment procedures and research designs have been involved for these findings not to be accepted (Holden, 1987). For example, according to American, Danish and Swedish adoption studies, children who were adopted in infancy were at greater risk for victimizing others if their biological parents had been convicted of a crime than if their adoptive parents had been (Cadoret, Cunningham, Loftus & Edwards, 1975; Cloninger, Sigvardsson, Bohman & von Knorring, 1982; Mednick, Gabrielli & Hutchings, 1984). In Mednick, Gabrielli and Hutchings' (1984) study of 14,427 children separated from parents at birth, it was found that siblings and half-siblings adopted separately into different homes were concordant for convictions. Converging with this adoption work, twin studies of adults have found that identical twins were roughly twice as

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TABLE I

Estimates of Variance Components and Estimates Corrected for Unreliablity from a Biometrical Analysis of Aggressiveness, Assertiveness, Altruism, Empathy and Nurturance Questionnaires from 573 Adult Twin Pairs.
(After Rushton, Fulker, Neale, Nias and Eysenck, 1986.)

Trait	Additive genetic variance		Common environmental variance		Specific environmental variance	
Aggressiveness	39%	(54%)*	0%	(0%)*	61%	(46%)*
Assertiveness	53%	(69%)*	0%	(0%)*	47%	(31%)*
Altruism	51%	(60%)*	2%	(2%)*	47%	(38%)*
Empathy	51%	(65%)*	0%	(0%)*	49%	(35%)*
Nurturance	43%	(60%)*	1%	(1%)*	56%	(39%)*

*Estimate corrected for unreliability of questionnaire.

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much alike in their aggressive and criminal behavior as fraternal twins (Christiansen, 1970; Cloninger, Christiansen, Reich & Gottesman, 1978; Rowe & Osgoode, 1984). As shown in Table 1, in Rushton et al.'s (1986) analysis of twins reared together, the heritability of both altruism and aggression was about 50%.

One of the less appreciated aspects of twin studies is the information they also provide about environmental effects. The important environmental variance turns out to be *within* a family, not *between* families (see Table 1). That is, the common family environment plays a very limited role in social development. Such factors as social class, family religion, parental values and child rearing styles, for example, are *not* found to have a common effect on siblings. This runs counter to prevailing "sociological" theories of social development that assume that the important environmental variance is between families, not within. Yet the observation that the environmental factors that influence development are those that are specific to each sibling, rather than common, is robust, having been replicated using samples of four different types: twins reared together, twins reared apart, adoptive parents and their offspring, and adoptive siblings (Plomin & Daniels, 1987). Regardless of whether one considers the transmission of socially undesirable traits such as crime, obesity, and schizophrenia, or more normative personality characteristics such as vocational interests and value systems, the evidence reveals that whereas genetic influences have an important role to play, the common family environment alone has little apparent effect.

These results are most readily grasped from the comparison of twins reared together and apart. They are also derived from the comparison of adoptive and biological siblings raised in the same family from infancy to adulthood, where the less related the siblings are, the increasingly divergent they grow with age. Table 2 presents a contrast of the world literature on adult identical twins reared apart in intelligence and personality, with that of other relationship categories (Bouchard, 1984; Rushton, in press). The results show substantial genetic effects on the traits in question and considerably weaker effects due to common environment. That siblings raised apart for many years in complex environments grow to be significantly similar to each other on a variety of traits, and that their degree of similarity is predicted by the number of genes they share, implies the presence of genetically based stabilizing systems that channel

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TABLE II

World Literature on Similarity in Adult Twins Raised Apart Compared with Other Relationship Categories on Intelligence and Personality (After Bouchard, 1984 and Rushton, in press).

	Intelligence		Personality	
	Number of Pairs	Intraclass Correlation	Number of Pairs	Intraclass Correlation
Identical Twins Reared Together	4,672	.86	5,000	.52
Identical Twins Reared Apart	65	.72	106	.54
Fraternal Twins Reared Together	5,546	.60	>8,000	.23
Fraternal Twins Reared Apart	29	.47	20	.18
Biological Siblings Reared Together	26,473	.47	17	.20
Biological Siblings Reared Apart	203	.24	—	—
Adoptive Siblings Reared Together	369	.34	78	.07

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development (Lumsden & Wilson, 1981; Rushton, Littlefield & Lumsden, 1986).

Epigenetic Rules in Social Development

Genes do not cause behavior directly. They code for enzymes which, under the influence of the environment, lay down tracts in the brains and nervous systems of individuals, thus differentially affecting people's minds and the choices they make about behavioral alternatives. In regard to altruism and aggression, for example, some people may inherit temperaments that dispose them to empathy or impulsivity, or a lack of conditionability. There are many plausible routes from genes to behavior and collectively these routes may be referred to as epigenetic rules.

Epigenetic rules, originating in the process of evolution, provide recipes by which individual development is guided in one direction over alternatives. Their operation is most apparent in embryology in which the construction of anatomical features occurs. To take a familiar example, the physical development from fertilized egg to neonate follows a preordained course starting in the head region and working its way down the body. By the end of the first month, a brain and spinal cord become evident, and a heart has formed and begun to beat. By the end of the eighth week, the developing fetus has a face, arms, legs, basic trunk and internal organs. By the sixth or seventy month, all major systems have been elaborated, and the fetus may survive if born prematurely.

The canalization of growth processes is also illustrated by findings from developmental behavioral genetics (Bouchard, 1984; Plomin & Daniels, 1987). Phenomena reflecting genetic timing mechanisms, for example, include the age of onset of puberty, first sexual experience, and menopause, in which identical twins are highly concordant. Another example is Huntington's chorea, a degenerative disorder of the central nervous system caused by a dominant gene. Age of onset varies from 5 to over 75, but family studies show that it is under genetic control. Chronogenetics also affects cognitive development as shown in a large sample of twins followed from 3 months to 15 years of age in which the synchronies between lags and spurts in mental development were found to average about 0.90 for identical twins, but only about 0.50 for fraternal twins.

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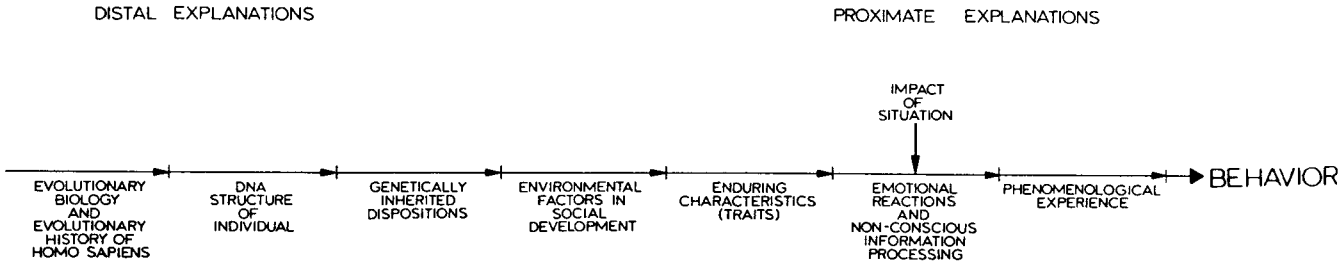

Figure 1: The distal-proximal dimension and levels of explanation in social behavior. When explanations move from distal to proximal controversy does not ensue whereas the converse is less true.
Source: Rushton, 1984.

Psychological development is also guided by epigenetic rules from sensory filtering through perception to feature evaluation to decision making (Lumsden & Wilson, 1981). For example, while the brain perceives variation in luminance along a continuum, it divides color into categories, using language to do so. Many social scientists used to believe that the divisions into red, green, and so forth are arbitrary, but linguistic and cross-cultural studies have shown that they are in fact closely tied to natural color perception. The application of epigenetic rules to more complex social behavior has also been made. For example, canalized end points appear to underlie the evolutionary function of smiling, attachment and separation responses in infants (Freedman, 1974). Similar interpretations can be made of the life-cycle stages documented to occur in ego-development, mortality, and psycho-social functioning (Loevinger, 1987). Epigenetically based physiological hypotheses can also be provided. Thus androgens may underlie Rushton, Fulker, et al.'s (1986) observations that altruism increases across the life-span while aggressiveness decreases, and that sex differences hold up consistently across time. Testosterone production is known to increase with age and to differentiate the sexes in the predicted direction.

The idea of genetic canalization provides an explanation for the important finding, shown in Tables 1 and 2, that common family environment has little impact on longer term personality development. Thus, within the same upbringing environment, the more belligerent sibling may observationally learn the items from the parents' aggressive repertoire, whereas his more nurturant sibling selects from the parents' altruism responses. For example, in an analysis of television effects, Rowe & Herstand (1986) found that although same-sex siblings resembled one another in their exposure to violent programs, it was the most aggressive sibling who a) identified most with aggressive characters, and b) viewed the consequences of the aggression as positive. Within-family studies of delinquents find that both IQ and temperament distinguishes delinquent siblings from those who are non-delinquent. It is not difficult to imagine how intellectually and temperamentally different siblings might acquire alternate patterns of social responsibility.

The potential of epigenetic rules to bias behavior and affect society may go well beyond ontogeny. Via cognitive phenotypes and group action, altruistic inclinations may be ampli-

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fied into charities and hospitals, creative and educative dispositions into academies of learning, martial tempers into institutes of war, and delinquent tendencies into social disorder. The idea that genes have such extended effects beyond the body in which they reside, biasing individuals to the production of particular cultural systems, constitutes a central focus for current thinking in sociobiology (Dawkins, 1982; Lumsden & Wilson, 1981). Within the constraints allowed by the total spectrum of cultural alternatives, people create environments maximally compatible with their genotypes (Rushton, Littlefield, & Lumsden, 1986).

Genetic Similarity Theory

That genotypes seek out maximally conducive environments is particularly well illustrated by findings that people select similar others with whom to associate, both as friends and as marriage partners. Both friends and spouses assort on the basis of such characteristics as race, socio-economic status, physical attractiveness, religion, social attitudes, level of education, family size and structure, IQ, and longevity (Rushton, Russell & Wells, 1985; Thiessen & Gregg, 1980). Correlations tend to be higher for opinions, attitudes, and values (0.40 to 0.70) and lower for personality traits and personal habits (0.02 to 0.30). Advantages thought to accrue to optimizing similarity in personal relations include increased altruism, cooperation and trust.

That such assortment is genetically mediated is suggested by studies of animals where assortative mating occurs in species ranging from insects through birds to primates (Thiessen & Gregg, 1980), and where animals raised apart show a preference to interact with kin rather than non-kin (Holmes & Sherman, 1983). My colleagues and I have investigated the phenomena in humans. Using blood antigen analyses to estimate genetic distance across 10 blood loci using 7 polymorphic marker systems (ABO, Rhesus (Rh), P, MNSs, Duffy (Fy), Kidd (Jk), and HLA over 6 chromosomes, we found that both male friendship dyads and sexually interacting couples share more genetic markers than do randomly generated pairs from the same samples (Rushton, 1987; Rushton & Chan, 1987). We also found that the epigenetic rules inclining people to choose each on the basis of similarity appear to be fine tuned, biasing

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individuals to assort on the more genetically influenced of homogeneous attributes. Positive correlations between assortment and genetic influence have been observed on a variety of anthropometric, cognitive, personality and attitudinal characteristics in both friendships and marriages (Rushton & Nicholson, in press; Rushton & Russell, 1985; Russell, Wells & Rushton, 1985). Following the death of a child, for example, both mothers and fathers irrespective of sex of child are found to grieve more for children resembling their side of the family than they do for children resembling their spouse's side (Littlefield & Rushton, 1986). It would appear that people are able to detect genetic similarity in others and act accordingly.

The implications of these findings may be far-reaching. For example, they provide a biological basis for ethnic nepotism. Since two individuals from within an ethnic group will, on average, be genetically more similar to each other than two from different ethnic groups, an individual is expected to benefit his own group over others. Ethnic conflict and rivalry is of course, one of the great themes of historical and contemporary society (van den Berghe, 1981). Ethnic altruism is demonstrated by group members preferring to congregate in the same area and associate with each other in clubs and organizations. Charitable donations are typically made in greater quantities within ethnic groups than between them and social psychological studies have documented that people are more likely to help members of their own race or country than members of other races or foreigners.

The reason people give preferential treatment to genetically similar others is both simple and profound: they thereby replicate their genes more effectively. Altruism is a very interesting phenomenon, even recognized by Darwin as an anomaly for his theory. How could it evolve through his hypothesized "survival of the fittest" individual when such behavior would appear to diminish personal fitness? If the most altruistic members of a group sacrificed themselves for others, they ran the risk of leaving fewer offspring to carry forward their genes for altruistic behavior? Hence altruism would be selected out, and indeed, selfishness would be selected in. Altruistic behaviors, however, occur in many animal species, some to the point of self-sacrifice (Wilson, 1975). For example, honey bees die when they sting in the process of protecting their nests.

Darwin proposed the competition of "tribe with tribe" to

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explain altruism (1871, p. 179). Thus a tribe of people willing to cooperate and, if necessary, sacrifice themselves for the common good would be victorious over tribes made up of those less willing or able. Indeed, he actually titled his epoch-making 1859 publication: "On the Origin of Species by Means of Natural Selection, *or the Preservation of Favoured Races in the Struggle for Life*." Subsequently Herbert Spencer (1892/93) extended this, suggesting that the operation of a 'code of amity' towards the members of their own group, and a 'code of enmity' toward those of out-groups prevailed in successful groups. In non-elaborated forms, some version of "group-selection" was held by most evolutionists for several decades.

It wasn't until Wynne-Edwards (1962) however that the altruism issue finally began to dominate theoretical center-stage. Wynn-Edwards suggested that whole groups of animals collectively refrained from over-breeding when the density of the population became too great – even to the point of directly killing their own offspring if necessary. Such self-restraint, he argued, protected the animals' resource base and gave them an advantage over groups of individuals which did not practice restraint and which became extinct as a result of their profligacy. This extreme form of the group selection argument was immediately disputed by other biologists. A great deal of subsequent argument and data was marshalled against the idea (Williams, 1966).

A degree of polarization followed. As D. S. Wilson put it, "For the next decade, group selection rivaled Lamarkianism as the most thoroughly repudiated idea in evolutionary theory" (1983: 159). Mathematical models were presented apparently showing that group selection could override individual selection only under extreme conditions. Essentially, there did not seem to exist a mechanism by which altruistic individuals would leave more genes than individuals who cheated. The solution to this paradox is one of the triumphs that led to the new synthesis of sociobiology. Following Hamilton (1964) the answer proposed was that individuals behave so as to maximize their "inclusive fitness" rather than only their individual fitness by increasing the production of successful offspring by both themselves *and their relatives,* a process that has become known as kin selection. This formulation provided a conceptual breakthrough, redirecting the unit of analysis from the individual organism to his or her genes, for it is these which survive and are passed on.

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Some of the same genes will be found in siblings, nephews and nieces, grandchildren, cousins, etc., as well as offspring. If an animal sacrifices its life for its siblings' offspring, it ensures the survival of shared genes for, by common descent, it shares 50% of its genes with each sibling and 25% with each siblings' offspring.

It is predicted, then, that the percentage of genes shared is an important determiner of the amount of altruism displayed, and this is borne out in a number of species. Social ants, for example, are one of the most altruistic species so far discovered and, because of a special feature of their reproductive system, also share 75% of their genes with their sisters. Thus by working for others, and sacrificing their lives if need be, they help to propagate their own genes. Extreme forms of altruism also may occur in clones (e.g., aphids), where individuals are 100% related.

Hamilton's (1964) theory of inclusive fitness was generally regarded as an extension of individual selection, not group selection (Dawkins, 1976). A compromise position was offered by E. O. Wilson (1975) who suggested that while the genes are the units of replication, their selection could take place through competition at both the individual and group levels which were viewed as opposite ends of a continuum of ever enlarging nested sets of socially interacting individuals. In this account, kin-selection is seen as intermediate between individuals and group selection. Under the rubric of "genetic similarity theory," Rushton Russell & Wells (1984) proposed an extension to the theory of kin-selection to the human case where altruism is provided to non-kin as well as to kin. Adopting the mechanistic perspective of the selfish gene, we argued that genes could maximize their replication by benefiting *any* organism in which copies of themselves were to be found. Thus kin-selection is but one form of genetic similarity selection. In order to pursue the strategy of benefiting similar genes, people must be able to discriminate degrees of genetic similarity in others. The results from our studies on marriage and friendship indicated they could do so.

Benefiting genetically similar others has been greatly enhanced through culture. Through the use of language, law, religious imagery, and patriotic nationalism replete with kin terminology, ideological commitment enormously extends altruistic behavior. Indeed recent analyses suggest that evolution under

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culturally driven group selection, including migration, war and genocide may account for the greatest amount of change in human gene frequencies (Ammerman & Cavalli-Sforza, 1984; Melotti, 1984; Vining, 1981; D. S. Wilson, 1983). The human propensity for deontological action may be guided by epigenetic rules which lead people to those cultural choices which maximally increase their genetic fitness (Lumsden & Wilson, 1981; Rushton, 1986; Rushton, Littlefield & Lumsden, 1986). In this analysis, the makeup of a gene pool causally affects the probability of any particular ideology being adopted, which subsequently affects relative gene frequencies. Religious, political, and other ideological battles may become as heated as they do because they have implications for genetic fitness; genotypes will thrive more in some cultures than others. From this perspective, Karl Marx did not take the argument far enough in the distal direction: ideology serves more than economic interest; it also serves genetic purpose.

For this account to be true, a) individual and group differences in ideological preferences must be partly heritable, and b) ideological practices must confer differential genetic fitness. Evidence exists to support both these propositions. With respect to a), while it has generally been assumed that political attitudes are for the most part environmentally determined, both twin and adoption studies demonstrate moderate to substantial heritabilities (e.g., 0.50) for both specific conservative social and political attitudes, as well as stylistic tendencies such as authoritarianism and degree of ideological commitment (Martin, Eaves, Heath, Jardine, Feingold, and Eysenck, 1986). With respect to b), whether the learning of ideologies can increase genetic fitness, obvious examples are to be found in those religious beliefs regulating sexual practices, marital custom, infant care, and child rearing (Reynolds and Tanner, 1983). Other evidence derives from cultural proscriptions on dietary habits. Amerindian tribes adopting the use of alkali cooking for maize, for example, had larger population densities and more complex social organizations than Amerindian tribes who did not, primarily because alkali cooking releases the most nutritious parts of cereal, enabling more tribal members to grow to reproductive maturity (Lumsden and Wilson, 1981). The native tribes were unable to explicate the biochemical reasons for the benefits of alkali cooking, but their cultural beliefs had evolved for good reasons.

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The role of genetic similarity in politics is likely to become increasingly noticeable in both the U.S. and the USSR as the turn of the century approaches. Both of the superpowers have large ethnic minorities and, given the differential in birth rates between majority and minority populations, the current ruling groups are unlikely to maintain their positions much longer. One reason the USSR invaded Afghanistan was to suppress Moslem fundamentalism which, if spread to the southern socialist republics, could bring an end to the existing power structure. The genetic minorities have the highest birth rates in the USSR and can ultimately be expected to displace the currently dominant Russians. In the U.S. power shifts can be expected as the differential birth rates of Spanish-speaking Americans, black Americans, and the currently dominant North European Americans continues.

Genetic similarity can thus be expected to be one of the many influences operating on political alliances. Obviously causation is complex, and it is not intended to reduce relationships between ethnic groups to a single cause. Fellow ethnics will not always stick together, nor is conflict inevitable between groups anymore than it is between genetically distinct individuals. Behavioral outcomes are always mediated by multiple causes. The Western European world is currently aligned primarily against the Russians, their half-cousins, while the more genetically distant Japanese are allies. It is an empirical question though whether it would be easier to manipulate antipathy in white Americans toward the Japanese than toward the Russians, or whether class conflicts become more intense when there is a racial element to them. Thus while "politics make strange bedfellows" and human alliances are constantly shifting, behavior may become more predictable as genetic distance measures are added into the equation.

A note on a paradox is essential. If the replication of similar genes is as strong an evolutionary imperative as sociobiological theorizing suggests, why are descendants of European populations throughout the world currently experiencing negative growth while allowing extensive immigration from genetically less similar gene pools? Why also have ideologies been adopted which discourage nationalist and religious sentiments proportional to the degree to which they express concern about such issues? Clearly ideologies can arise which have the paradoxical effect of dramatically decreasing fitness. A classic example of

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such a lethal idea is to be found among the Shakers, a religious sect which considers sex to be so sinful that it imposes celibacy upon even its married members. This ideology has until recently been quite successful in replicating itself through several generations; new adherents being recruited, largely via adoptions. The member's genes, of course, fail to replicate.

The fertility paradox goes back centuries. Fisher (1958) raised the question of why civilizations decay, and documented evidence in favor of the hypothesis that the ruling group (often classes, sometimes races) failed to reproduce themselves, usually having much lower fertility than the ruled groups. Fisher (1958) hypothesized a trade-off between the capacity for economic success and fertility and there is increasing evidence that such a syndrome exists (Rushton, 1985; following Wilson, 1975). The fact that successful cultures arise whose members subsequently limit their own replication, giving less genetically similar others the opportunity to replace them, must be considered a major challenge for evolutionary biology (Vining, 1986). Its solution probably requires adding a stronger component of cultural transmission to the traditional concern with genetics. If successful, this explanatory breakthrough may herald a quantum jump in understanding the naure of gene-culture coevolution.

REFERENCES

Ammerman, A. J. and L. L. Cavalli-Sforza
1984 The Neolithic Transition and the Genetics of Populations in Europe. Princeton, New Jersey: Princeton University Press.

Bouchard, T. J., Jr.
1984 Twins reared together and apart: What they tell us about human diversity. In S. W. Fox (Eds.), Individuality and Determinism: Chemical and Biological Bases (pp. 147-184). New York: Plenum.

Cadoret, R. J., L. Cunningham, R. Loftus, and J. Edwards
1975 Studies of adoptees from psychiatrically disturbed biological parents. II. Temperament hyperactive, antisocial and developmental variables. *Journal of Pediatrics*, 87, pp. 301-306.

Christiansen, K. O.
1970 Crime in a Danish twin population. *Acta Geneticae Medicae et Gemellologiae*, 19: 232-236.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Cloninger, C. R., K. O. Christiansen, T. Reich, and I. Gottesman
1978 Implications of sex differences in the prevalence of personality, alcoholism, and criminality for familial transmission. *Archives of General Psychiatry*, 35: 941-951.
Cloninger, C. R. S. Sigvardsson, M. Bohman, A-L. von Knorring
1982 Predisposition to petty criminality in Swedish adoptees. II. Cross-fostering analysis of gene-environment interaction. *Archives of General Psychiatry*, 31: 785-791.
Darwin, C.
1859 On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life, 6th edn. 1882, Murray, London.
1871 The Descent of Man. London, Murray.
Dawkins, R.
1976 The Selfish Gene. Oxford: Oxford University Press.
1982 The Extended Phenotype. San Francisco, California: Freeman.
Fisher, R. A.
1958 The Genetical Theory of Natural Selection. 2nd rev. ed. New York: Dover Publications.
Hamilton, W. D.
1964 The genetical evolution of social behavior (I and II). *Journal of Theoretical Biology*, 7: 1-52.
Holden, C.
1987 The genetics of personality. *Science*, 237: 598-601.
Holmes, W. and P. W. Sherman
1983 Kin recognition in animals. *American Scientist*, 71: 46-55.
Littlefield, C. H. and J. P. Rushton
1986 When a child dies: The sociobiology of bereavement. *Journal of Personality and Social Psychology*, 51: 797-802.
Lumsden, C. J. and E. O. Wilson
1981 Genes, Mind and Culture: The Coevolutionary Process. Cambridge, Massachusetts: Harvard University Press.
Martin, N. G., L. J. Eaves, A. C. Heath, R. Jardine,
L. M. Feingold, and H. J. Eysenck
1986 The transmission of social attitudes. *Proceedings of the National Academy of Sciences of the United States of America*, 83: 4365-4368.
Mednick, S. A., W. F. Gabrielli, and B. Hutchings
1984 Genetic influences in criminal convictions: Evidence from an adoption cohort. *Science*, 224: 891-894.
Melotti, U.
1984 The origin of human aggression: A new evolutionary view. *Mankind Quarterly*, 24: 379-92.
Plomin, R. and D. Daniels
1987 Why are children in the same family so different from one another? *Behavioral and Brain Sciences*, 10: 1-60.
Reynolds, V. and R. E. S. Tanner
1983 The Biology of Religion. New York: Longman.
Rowe, D. C. and S E. Herstand
1986 Familial influences on television viewing and aggression: A

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sibling study. *Aggressive Behavior*, 12: 111-120.

Rowe, D. C. and D. W. Osgoode

1984 Heredity and sociological theories of delinquency: A reconsideration. *American Sociological Review*, 49: 526-540.

Rushton, J. P.

1980 Altruism, Socialization, and Society. Englewood Cliffs, New Jersey: Prentice-Hall.

1984 Sociobiology: Toward a theory of individual and group differences in personality and social behavior (with commentaries and response). In J. R. Royce and L. P. Mos (Eds). Annals of Theoretical Psychology (Vol. 2, pp. 1-81). New York: Plenum.

1985 Differential K theory: The sociobiology of individual and group differences. *Personality and Individual Differences*, 6: 441-452.

1986 Gene-culture coevolution and genetic similarity theory: Implications for ideology, ethnic nepotism, and geopolitics. *Politics and the Life Sciences*, 4: 144-148.

1987 Genetic similarity, mate choice and fecundity in humans. Manuscript submitted for publication, University of Western Ontario, Department of Psychology, London, Ontario, Canada.

In Press Epigenetic rules in moral development: Distal-proximal approaches to altruism and aggression. *Aggressive Behavior*.

Rushton, J. P., C. J. Brainerd, and M. Pressley

1983 Behavioral development and construct validity: The principle of aggregation. *Psychological Bulletin*, 94: 18-38.

Rushton, J. P. and P. K. F. Chan

1987 Genetic similarity in male friendships. Manuscript submitted for publication, University of Western Ontario, London, Ontario, N6A 5C2 Canada.

Rushton, J. P. and S. Erdle

1987 Evidence for an aggressive (and delinquent) personality. *British Journal of Social Psychology*, 26: 87-89.

Rushton, J. P., D. W. Fulker, M. C. Neale, D. K. B. Nias, and H. J. Eysenck

1986 Altruism and aggression: The heritability of individual differences. *Journal of Personality and Social Psychology*, 50: 1192-1198.

Rushton, J. P., C. H. Littlefield, and C. J. Lumsden

1986 Gene-culture coevolution of complex social behavior: Human altruism and mate choice. *Proceedings of the National Academy of the United States of America*, 83: 7340-7343.

Rushton, J. P., and I. R. Nicholson

In press Genetic similarity theory, intelligence, and human mate choice. *Ethology and Sociobiology*.

Rushton, J. P. and R. J. H. Russell

1985 Genetic similarity theory: A reply to Mealey and new evidence. *Behavior Genetics*, 15: 575-582.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Rushton, J. P., R. J. H. Russell, and P. A. Wells
1984 Genetic similarity theory; Beyond kin selection. *Behavior Genetics*, 14: 179-193.
1985 Personality and genetic similarity theory. *Journal of Social and Biological Structures*, 8: 63-86.
Russell, R. J. H., P. A. Wells, and J. P. Rushton
1985 Evidence for genetic similarity detection in human marriage. *Ethnology and Sociobiology*, 6: 183-187.
Spencer, H.
1892-1893 The Principles of Ethics, 2 vols. London: Williams and Norgate.
Thiessen, D., and B. Gregg
1980 Human assortative mating and genetic equilibrium: An evolutionary perspective. *Ethology and Sociobiology*, 1: 111-140.
van den Berghe, P. L.
1981 The Ethnic Phenomenon. New York: Elsevier.
Vining, D. R.
1981 Group selection via genocide. *Mankind Quarterly*, 22: 27-41.
1986 Social versus reproductive success: The central theoretical problem of human sociobiology. *Behavioral and Brain Sciences*, 9: 167-216.
Wilson, E. O.
1975 Sociobiology: The New Synthesis. Cambridge, Massachusetts: Harvard University Press.

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ABSTRACT REASONING AND SPATIAL ABILITIES AMONG AMERICAN, BRITISH AND JAPANESE ADOLESCENTS

RICHARD LYNN and SUSAN L. HAMPSON
University of Ulster, Coleraine, Northern Ireland
SABURO IWAWAKI
University of Hyogo, Japan

This study investigates the abstract reasoning and spatial relations abilities of American, British and Japanese 13-15 year olds with the Differential Aptitude Tests. The mean IQs of American and British adolescents were found to be virtually identical on both abilities, while Japanese adolescents obtained mean IQs of 104.5 for abstract reasoning and 114.0 for spatial ability. These results confirm previous studies showing that the Japanese have high abstract reasoning ability and unusually high spatial ability.

During the last decade there has been some interest in the intelligence of the Japanese. It has been claimed by the first author that different samples of Japanese, tested with different tests, obtain mean IQs in the range of 103-114, and that the Japanese have the highest intelligence in the world (Lynn, 1977, 1987). Some other investigators have published studies in general agreement with this position, but others have dissented. Among those whose work supports this position, Hilger, Klett and Watson (1976) obtained a mean IQ of 138 for Japanese children on a drawing test of intelligence, and Misawa, Motegi, Fujita and Hattori (1984) reported a mean of 113 for Japanese children on the Columbia Mental Maturity Scale, an American test of abstract reasoning. On the other hand no overall difference between Japanese and American children on a battery of intelligence tests was found by Stevenson, Stigler, Lee, Lucker, Kitamura and Hsu (1985). Thus the existing data exhibit a range of different results which make the present position unsatisfactory.

It has been suggested by the first author that the explanation for these conflicting results lies in the unusual pattern of abilities among the Japanese (Lynn, 1987). It is possible to consider the concept of intelligence from two points of view. On the one hand, intelligence can be regarded as a single entity which determines the level of performance on all cognitive

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		Abstract Reasoning			Space Relations		
Subjects	Age	Mean	SD	IQ	Mean	SD	IQ
Boys	13	30.0	10.9	103.3	27.2	10.6	105.7
Girls	13	29.3	11.1	102.3	25.3	9.6	102.7
Boys	14	33.2	10.2	104.1	31.8	11.9	108.1
Girls	14	32.4	10.5	103.0	28.6	10.5	103.6
Boys	15	34.3	9.9	102.9	32.8	11.8	105.5
Girls	15	33.5	10.2	101.8	29.4	10.4	101.2
All Boys				103.4			106.4
All Girls				102.4			102.5
Total Sample				102.9			104.5

Table 1 Mean Scores of British 13-15 Year Olds and IQs on the American DAT.

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problems. This view was advanced early in the century by Spearman (1904), who designated this broad ability as *g* (general intelligence) and considered that it was expressed most clearly in the solution of abstract reasoning problems. This view is considered by many contemporary psychologists to be substantially correct (e.g. Eysenck, 1982; Jensen, 1980).

However, this conceptualization has been subject to some refinement. It was proposed by Burt (1949) and Vernon (1950) that Spearman's general intelligence (g) could be divided into two broad groups of abilities which are generally designated the verbal and the visuospatial abilities. These two groups can themselves be split into several narrower primary abilities. Thus, the verbal group factor can be split into verbal reasoning, vocabulary, verbal memory, word fluency, arithmetical ability and possibly foreign language ability. Similarly, the visuospatial group factor can be split into different kinds of spatial comprehension and memory.

The division of Spearman's *g* into the two broad groups of verbal and visuospatial abilities has been widely accepted as a useful elaboration of Spearman's original thesis. There is considerable evidence that the two groups of abilities are represented in different parts of the brain, the verbal abilities being located in the left cerebral hemisphere and the visuospatial abilities in the right (Bradshaw and Nettleton, 1983). This generalization applies to the 96 per cent or so of the population who are right handed and to about half of the left handers.

This distinction between general intelligence (Spearman's *g*) and the verbal and visuospatial group factors has been employed by the first author for the analysis of the abilities of the Japanese. The proposal is that the Japanese have a slight advantage over whites (Caucasians) in the United States and Britain for Spearman's *g* and a quite substantial superiority for the visuospatial abilities. On the other hand their verbal abilities are relatively weak. The existing evidence from which this thesis is advanced is summarized in Lynn (1987).

It is considered that the pattern of abilities which appears to exist among the Japanese is sufficiently interesting to merit further study. This is the objective of the present paper. The study to be described has been designed to provide a simple and straightforward test of the hypothesis that Japanese children are slightly superior to white children from North America

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				Abstract Reasoning			Space Relations		
Locations	Subjects	N.	Age	Mean	S.D.	IQ	Mean	S.D.	IQ
Country	Boys	27	13	33.6	7.7	108.2	33.1	9.8	115.0
	Girls	14	13	32.6	6.9	106.8	30.1	10.7	110.3
Country	Boys	20	14	36.8	9.1	109.0	43.1	14.0	123.8
	Girls	8	14	42.2	5.2	116.4	42.2	6.0	122.5
Country	Boys	16	15	38.8	8.8	109.0	42.5	11.5	117.9
	Girls	16	15	38.6	4.4	108.7	38.5	10.8	112.8
Town	Boys	38	14	39.4	5.8	112.5	43.1	11.2	123.8
	Girls	39	14	37.8	7.1	110.4	42.7	9.6	123.2
	Boys	101				110.1			120.5
	Girls	77				110.0			118.6
	Total	178				110.1			119.6

Table 2 Mean Scores of Japanese 13-15 Year Olds and IQs on the American DAT.

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and Britain with regard to Spearman's *g* and are more markedly superior on spatial ability.

Method

The tests used in this study were the abstract reasoning and space relations scales of the Differential Aptitude Test (DAT), Form S (Bennett, Seashore and Wesman, 1973). Each scale takes 25 minutes. The abstract reasoning scale consists of geometric design series problems similar to those in Raven's Progressive Matrices. There are no sex differences on this scale. The space relations scale consists of problems involving the transposition of two dimensional designs into three dimensional shapes and requires visualization. Boys tend to do better on this test than girls with a mean advantage of approximately 0.20 of a standard deviation. This sex difference is a well-known feature of spatial tests.

The DAT was first developed in the United States in 1947 for the 13-18 year age range. It was re-standardized in 1972 on approximately 64,000 adolescents throughout the United States. The test was standardized in Britain in 1978 on approximately 10,000 adolescents drawn as a representative sample stratified for school type, region and source of school finance (Hodgkiss, 1978). It is considered that the representativeness of the samples and their very large sizes should make the norms highly accurate for both the United States and Britain.

The abstract reasoning and space relations scales of the DAT were administered in two schools in Japan in 1985. One was the junior high school serving all 7th-9th grade children (i.e. 13-15 year olds) in a fishing village in Honshu, the largest of the four principal islands of Japan. All the children in this school were tested who were present on the day of the administration of the test. The second school was in Ichikawa, Chiba, a dormitory town outside Tokyo which was selected as a typical urban school. All the eighth grade children (i.e. fourteen year olds) in the school were tested. The Japanese test administrator was not aware at the time of the administration of the tests that previous studies had shown that Japanese children have high spatial ability and that this finding was being checked in the present investigation.

Results

We consider first the scores of American and British adoles-

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cents on the two scales. These are displayed in Table 1. The British means for boys and girls separately aged 13, 14 and 15 have been read off the standardization tables of the British manual. These means have been converted to IQs using the U.S. means given in the American Manual. Table 1 shows these means and corresponding IQs compared with an American mean of 100 (SD 15). The bottom row gives the total overall means of 102.9 for abstract reasoning and 104.5 for space relations for the entire British sample.

At first sight it seems that the British means are somewhat higher than the American but this apparent superiority is explicable. Two factors have to be taken into account. Firstly, it has been calculated that the mean IQ of children in the United States has been increasing by approximately 3 IQ points per decade over the period 1932-1978 and increases of about the same magnitude have also been taking place in Britain and Japan (Flynn, 1984; Lynn and Hampson, 1986). Since the American standardization of the DAT was carried out in 1972 and the British standardization in 1978, it is evident that the American means need to be increased by approximately 1.8 IQ points for a comparison with the British means as of the year 1978. It is also necessary to take into account the contribution of black American children to the American norms. It is well-known that black children score lower than white children on intelligence tests and the presence of substantial numbers of these in the American DAT standardization sample will yield a lower mean than would be achieved by white children alone. The mean IQ of American white children is approximately 101.7. This is the figure given by Jensen and Reynolds (1982) derived from the standardization of the WISC-R and calculated in relation to a mean IQ of 100 for all American children. This is considered to be sufficiently accurate for our present purposes.

Thus, to compare British children with white American children for the year 1978 it is necessary to add 1.8 + 1.7 = 3.5 IQ points to the American mean of 100. The white British mean for abstract reasoning is now 0.6 IQ points lower than the white American mean (102.9 and 103.5 respectively) and the British mean for space relations is 1.0 IQ points greater than the American mean (104.5 and 103.5 respectively). Strictly speaking the British means are, in a statistical sense, significantly different from the American means ($t = 2.63$ and 4.38 respectively), but

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probably few would wish to maintain that a difference of around 1 IQ point has real significance. We propose that the upshot of this discussion is that the means of British and white American children on both abstract reasoning and space relations are for practical purposes virtually identical.

We turn now to the Japanese means which are set out in Table 2. The data shown are the mean raw scores and standard deviations of boys and girls separately for the four samples (i.e. 13, 14 and 15 year olds in the village school and 14 year olds in the town school) and the equivalent IQs based on an American mean of 100 (SD 15).

Looking first at abstract reasoning, it will be seen that the Japanese obtain an overall mean of 110.1. However, this figure needs adjustment of the same kind as the British mean. The Japanese data were collected 13 years later than the American standardization sample data, so the American mean needs to be increased by 3.9 IQ points to give a figure as of 1985. A further 1.7 IQ points need to be added for a comparison between Japanese children and American white children only. These two adjustments bring the American mean up to 105.6 IQ points. It appears therefore that the Japanese sample scored higher than the American sample by 4.5 IQ points. This difference is statistically significant ($t = 3.99$, $p < .01$).

Turning next to the Japanese means on the space relations scale, it will be seen that the overall Japanese mean is 119.6. The American mean, adjusted as in the preceding paragraph, is 105.6, so that the Japanese superiority on space relations amounts to 14.0 IQ points. This difference from the American mean is statistically significant ($t = 12.42$, $P < .01$).

The Japanese clearly achieve higher mean scores on space relations (overall adjustment mean = 114.0) than they do on abstract reasoning (overall adjustment mean = 104.5). The difference between these two means is statistically significant ($t = 5.99$, $P < .01$).

The results of this study therefore indicate two conclusions. Firstly, Japanese adolescents score a little higher than Caucasian adolescents in the United States and Britain for Spearman's *g*, as measured by the DAT abstract reasoning test. Secondly, Japanese adolescents are quite markedly superior on spartial ability, as measured on the DAT space relations test. The results evidently confirm the hypothesis that the most striking feature of the intelligence of the Japanese lies in their strong visuo-

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spatial abilities.

Discussion

The most interesting question concerns the causes of this distinctive pattern of abilities in the Japanese. As noted in the introduction, the strong visuospatial abilities of the Japanese appear to be accompanied by relatively weak verbal abilities. The reason that Stevenson et al (1985) found no difference between Japanese and American children in their study comparing Japanese children in the city of Sendai with American children in Minneapolis is that the tests they used were largely verbal, with a small portion of general reasoning and visuospatial tests. When the test results are examined individually it is apparent that the Japanese did well on the visuospatial tests but poorly on the verbal tests.

It is noteworthy that the Japanese pattern of abilities is also present among ethnic orientals in the United States. The literature has been fully reviewed by Vernon (1982), who concludes that on verbal tests American ethnic orientals obtain a mean IQ of about 97, while on non-verbal and spatial tests they obtain a mean IQ of 110. The persistence of this pattern in such widely differing environments may suggest some genetic basis to this pattern of abilities which is sufficiently strong to transcend cultural differences.

REFERENCES

Bennett, G.K., H. G. Seashore, and A. G. Wesman
1973 Manual for the Differential Aptitude Tests. New York: The Psychological Corporation.

Bradshaw, J. L., and N. C. Nettleton
1983 Human Laterality. Prentice-Hall, Englewood. Cliffs, New Jersey.

Burt, C. L.
1949 The structure of the mind: a review of the results of factor analysis. *Brit. J. Educ. Psychol.* 19: 100-111.

Eysenck, H. J.
1982 A Model for Intelligence. Springer-Verlag, Berlin.

Flynn, J. R.
1984 The mean IQ of Americans: Massive gains 1932 to 1978. *Psychol. Bulletin*, 95: 29-51.

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ELECTRONIC REPRODUCTION PROHIBITED

Hilger, S. M. I., W. G. Klett and C. G. Watson
1976 Performance of Ainu and Japanese six year olds on the Good-enough-Harris drawing test. *Percept. Mot. Skills* 42: 435-438.
Hodgkiss, J.
1978 Differential Aptitude Tests: British Manual. Windsor, United Kingdom: NFER Publishing Co.
Jensen, A. R.
1980 Bias in Mental Testing. London: Methuen.
Jensen, A. R. and C. R. Reynolds
1982 Race, social class and ability patterns on the WISC-R. *Person. Indiv. Diff.*, 3: 423-438.
Lynn, R.
1977 The intelligence of the Japanese. *Bulletin Brit. Psychol. Soc.*, 30: 69-72.
1987 The intelligence of the Mongoloids: a psychometric, evolutionary and neurological theory. *Person. Indiv. Diffs.* (to appear).
Lynn, R. and S. Hampson
1986 The rise of national intelligence: evidence from Britain, Japan and the United States. *Person. Indiv. Diffs.* 7: 23-32.
Misawa, G., M. Motegi, K. Fujita and K. Hattori
1984 A comparative study of intellectual abilities of Japanese and American children on the Columbia Mental Maturity Scale. *Person. Indiv. Diffs.* 5: 173-182.
Spearman, C.
1904 General intelligence: objectively determined and measured. *Amer. J. Psychol.* 15: 201-292.
Stevenson, H. W., J. W. Stigler, S. Lee, G. W. Lucker,
S. Kitamura and C. Hsu
1985 Cognitive performance of Japanese, Chinese and American Children. *Child. Devel.* 56: 718-734.
Vernon, P. E.
1950 The Structure of Human Abilities. London: Methuen.
1982 The Abilities and Achievements of Orientals in North America. New York: Academic Press.

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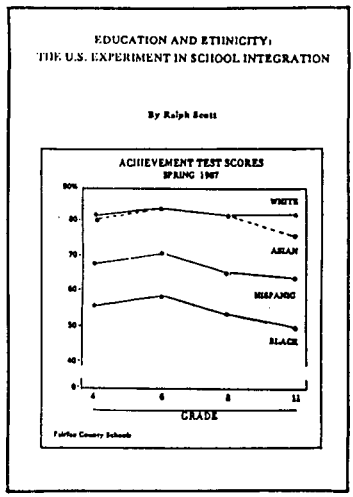
EDUCATION AND ETHNICITY:
The U.S. Experiment in School Education

By Dr. Ralph Scott
Director, Educational Clinic, University of Northern Iowa

PROMOTING EDUCATIONAL DISADVANTAGE: A NEW DILEMMA FOR AMERICAN BLACKS



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"Push-Through" Educational Programs.

It is perplexing that circumstances have worsened for literally millions of minority youths during a period which has witnessed the burgeoning of special programs designed to help them. For more than three decades the entire structure of U.S. education has been dramatically reshaped. However, as U.S. schools become racially 'balanced,' educators were forced to deal with large ethnic achievement gaps at the high school level. It is not uncommon, for example, for a tenth grade student to have trouble reading a third grade textbook while sitting beside classmates capable of college work. Typically, ability grouping was abolished, and classrooms and instructional groupings were racially balanced. Other race-conscious intervention measures followed: informal quotas on student discipline, on grading practices and in composition of 'special' classrooms. Ethnic quotas on discipline and suspensions have forced teachers to tolerate behavior which is most efficaciously curbed during the formative years. Racial quotas for exceptional students have radically altered what is meant by the terms 'mentally retarded,' 'gifted' and 'learning disabled.' Uncritical promotions have led to unacceptably high failure rates in high school and universities. The sensitive racial topics consideed throughout this book are intended to promote rethinking of basic educational strategies which have proven to be harmful for both black and white students alike.

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THE INDIAN GOVERNMENT PROGRAM FOR STERILIZATION: A CASE STUDY IN UTTAR PRADESH

S.K. RAY
Institute of Economic Growth, Delhi
and
SANJIV NAIR
Joint Secretary, Department of Finance, Government of Uttar Pradesh

The authors evaluate the effectiveness of a program for voluntary sterilization in India. Major defects are identified, such as the failure to restrict economic inducements to younger applicants .

Two aspects are now given more emphasis in the implementation of plan programs in India. First, a wider geographical spread in program implementation is stressed, with the objective of bringing more regions and more people into the mainstream of development activities. Realization of the targets set at district, block and village levels is therefore given weightage in assessing the overall performance of a program. Second, result-oriented rather than expenditure-related performance is given importance in program evaluation. Clearly identifiable and directly measurable physical targets are set, and the officials involved in program implementation at all levels are made responsible and accountable for the realization of the targets. Thus, numerical achievements such as the number of people pulled up above the poverty line, the number of couples covered by birth control measures, the number of landless people given land, etc. have all become important in the career assessment of the officials involved in program implementation.

Officials from the revenue, planning and health departments posted at district, block and village levels have more intimate knowledge of the socio-economic and political realities at the grass root level than higher level authorities, and as such they are better equipped to act as agents of change. To obtain improved results, the government has thus found it convenient to make better use of these officials by making them more accountable for program implementation.

This emphasis on the achievement of numerical targets has qualitatively changed the implementation of plan programs at the grass root level. Success stories, as measured by the realization of set targets, are now more frequently reported. However, not enough follow up studies are available to permit an objective assessment of these reported success stories. Moreover,

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TABLE 1

Agency-wise Age Distribution of Persons Sterilized

Agency	Age Group						
	15-25	26-30	31-35	36-40	41-45	Above 45	Total
					Females		
Health	20	52	32	13	3	0	120
Planning	12	36	31	10	2	0	91
Revenue	11	24	19	21	3	0	78
D.I.C.	0	2	2	1	0	0	5
Others	0	0	0	2	0	0	2
Total	43	114	84	47	8	0	296
					Males		
Health	0	2	3	1	0	0	6
Planning	0	4	6	10	9	10	39
Revenue	0	4	5	8	3	5	25
D.I.C.	0	2	0	2	1	4	9
Others	0	0	0	1	0	0	1
Total	0	12	14	22	13	18	80

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there is a realization that the numerical target alone cannot be an adequate yardstick for success without all the ramifications of an important program being thoroughly examined.

Even if the attainment of a numerical target is used as an indicator for measuring success in program implementation, it is essential to know how the figures were compiled, what organizational and administrative innovations were used and what difficulties were experienced at the implementation stage. We propose to investigate some of these issues in this study of a 'successfully' implemented family planning program for sterilization in the Meerut tehsil of U.P. in 1985-86. Our investigation is based on a follow up survey carried out in the same area in June, 1986.

The paper is organized as follows. We first present in Section I, a brief account of the governmental efforts for attaining the sterilization targets. The procedure adopted for fixing the targets and the consequent responses of the state administration for attaining these targets at district and lower levels in U.P. are also described in this section. We then provide in Section II the socio-economic background of the study area, and the details of the sample design used for the purpose of testing several hypotheses. The main findings of our investigation including some general field observations are next presented in Section III. Finally, in section IV, we have attempted to draw some policy implications from our field investigation and also suggested some new measures for improving the implementation of family planning programs at the grass root level.

I. Action Programs for Achieving Sterilization Targets

A large number of medical options are now available for reducing the birth rate and consequently the population growth rate. Though many of these methods are being popularized through family planning programs aimed at limiting the family size to two or three children, governmental agencies are placing maximum emphasis on sterilization operations. Realization of the target set for sterilization has now become the prime concern of the government in its efforts towards controlling the population growth rate.

To achieve the sterilization targets at regional and sub-regional levels, many novel schemes were tried from the early 1970s for inducing people to undergo sterilization. Camps were

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TABLE 2

Caste Composition of Persons Sterilized

Caste	Age Group						
	15-25	26-30	31-35	36-40	41-45	Above 45	Total
				Females			
HINDUS							
Upper Castes	5	11	3	6	1	0	26
Jats	6	12	6	2	1	0	27
Gujars	2	8	6	2	1	0	19
Sched. Castes	10	27	23	16	2	0	78
Others	8	29	21	7	2	0	67
MUSLIMS	12	27	25	14	1	0	79
Total	43	114	84	47	8	0	296
				Males			
HINDUS							
Upper Castes	0	1	2	1	0	1	5
Jats	0	1	0	1	1	0	3
Gujars	0	1	0	0	0	0	1
Sched. Castes	0	6	7	11	6	11	41
Others	0	2	2	2	1	0	7
MUSLIMS	0	1	3	7	5	7	23
Total	0	12	14	22	13	19	80

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organized, and cash and kind incentives were offered to those who came forward for sterilization operations. However, these incentive schemes were not successful. The response remained low. Direct coercive methods were then used during the Emergency with disastrous consequences. Besides political upheaval and serious law and order problems, the coercive methods generated an antagonistic attitude of the people towards sterilization, in the face of which the drive for sterilization was almost abandoned.

Beginning from the 1980s, the government has again activated its campaign for sterilization. Although coercive methods are now forbidden, efforts are made to induce the beneficiaries of various minimum needs programs to undergo sterilization. In 1985-86, the Government of India went a step further, and for the first time since the Emergency, induced the state governments to design action programs for attaining the sterilization targets assigned at the state levels. The Uttar Pradesh Government responded to this task by designing a weighted evaluation system for assessing district performance. Until then the U.P. Government was assigning equal weightage for assessing the performances of a district on various programs. The importance given to the family planning program by the Centre prompted the State Government to abandon the equal weightage scheme. From 1985-86, family planning was given three times the weightage over other programs. In other words achievement of the target in family planning program would get the district a grading of 3 points whereas in all other programs similar performance would yield only one point. The weighted grading system not only reflected the commitment of the U.P. Government to the family planning program but also indicated its concern to ensure that district officials accorded similar importance to this program.

However, no feasibility surveys were made before setting the district level targets. The targets were fixed exogenously by the State Government and the district administration had no say in these exercises. Broadly, the U.P. Government followed the same population based normative approach adopted by the Central Government for fixing the state level sterilization targets, and distributed the State target assigned by the Centre over the districts accordingly. The U.P. district administrations also followed the same procedure. Each district's target was apportioned between the blocks roughly on the basis of popula-

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TABLE 3

Economic Status of the Families of Persons Sterilized

Economic Status	Age Group						
	15-25	26-30	31-35	36-40	41-45	Above 45	Total
					Females		
Landless	15	38	40	26	4	0	123
Self-employed	9	22	10	8	1	0	50
Small Farmer	7	27	20	11	3	0	68
Big Farmer	2	9	5	0	0	0	16
Service	10	18	9	2	0	0	39
Total	43	114	84	47	8	0	296
					Males		
Landless	0	7	10	10	5	12	44
Self-employed	0	3	0	5	3	4	15
Small Farmer	0	1	2	4	4	3	14
Big Farmer	0	1	0	1	0	0	2
Service	0	0	2	2	1	0	5
Total	0	12	14	22	13	19	80

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tion size. In the Meerut tehsil where we carried out the present investigation the target for the year 1985-86 was fixed at 600 cases per block.

Prior to 1985-86, the district administrations in U.P. were utilizing the services of the health department in the implementation of family planning programs. It was hoped that sterilization targets would be relatively easier to attain if the entire family planning programs were pushed through the health department as an integral part of its health care services. The performances of the health department were, however, consistently falling short of the targets set. As the weighted grading system introduced in 1985-86 imposed added responsibilities and concern for the realization of sterilization targets, the district administration in U.P. felt it necessary to utilize the services of other agencies having stronger grassroot contact. The district magistrates mobilized the revenue and planning departments for motivating sterilization cases. Both the agencies had had a brief exposure to the implementation of family planning program in the previous year.

Revenue and planning agencies were involved in the program implementation not only for their village base and grass root contact but also for their direct involvement in the implementation of various social welfare programs such as allocation of loans and house sites, IRDP, TRYSEM, etc. The field functionaries of the revenue department are the 'patwaris' who keep the land records for the revenue department. They are probably the most important and influential officials at the village level. The field functionaries of the planning department are the 'gram vikash adhikaris' and the 'gram panchayat adhikaris'. Because of their direct involvement in the implementation of various agricultural and rural development programs of the government, they too enjoy access to and influence over the villagers.

In Meerut tehsil, the district administration entrusted the task of realizing 50 per cent of the sterilization target set at the block level to the revenue and planning agencies, and the remaining 50 per cent to the health department. The efforts of the patwaris in motivating sterilization cases were supervised by the kanungos, naib-tehsildars and the tehsildars. Similarly, the assistant development officers and the block development officers supervised the efforts of the gram vikash adhikaris and gram panchayat adhikaris. The sub-divisional

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TABLE 4

Average Age of Persons Sterilized

Religion (Caste) Economic Status	Average Age of Females	Average Age of Males
		Religion-wise
Hindus	30.6	38.7
Muslims	30.8	42.0
		Caste-wise
Upper Castes	30.3	36.8
Jats	29.0	36.8
Gujars	31.0	28.5
Sched. Castes	31.3	40.0
Others	30.5	34.9
	Economic Status-wise	
Landless	31.7	39.5
Self-employed	29.9	40.6
Small farmer	31.4	41.0
Big farmer	29.0	33.5
Service	28.0	37.5
		All Categories
Persons sterilized	30.7	39.7
Spouses of the persons sterilized	37.8	34.8

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officer supervised the activities of both the agencies. To ensure smooth functioning of the family planning camps, the district magistrate made the sub-divisional officers fully responsible for monitoring and overseeing the performances of these camps.

The number and location of the camps were decided by the district magistrate in consultation with the sub-divisional officer and health department officials. The general strategy adopted was to organize as many camps in a month as possible. The emphasis was more on organizing small camps at shorter intervals than a few big camps at longer intervals. The advantage of the former was apparent not only in providing comfort and care to the patients but also in motivating and bringing cases for sterilization at frequent intervals from a larger area. It was found from the past record that the drop-out rate among all those who promised to turn up at a camp for sterilization was high, around 50 per cent. This was due to various personal reasons such as illness, preoccupation with certain domestic matters, marriage or festival responsibilities, or plain reluctance to undergo the sterilization operation. Frequent organization of the camps thus helped also to cover the large number of such persons who promised but failed to turn up on earlier occasions.

The camp schedules for each month were worked out after taking into account availability of doctors' teams and locations suitable for sterilization operations. In the Meerut tehsil, camps were organized either at the Medical College, Primary Health Centres, the local hospitals or at the premises of public sector undertakings which were found suitable by the doctors. Operations were performed by the teams of doctors deputed by the medical college located in the district and those sent by the local hospitals. Teams of doctors who came from the medical college were distributed among the tehsils by the district magistrate. At the tehsil level, the sub-divisional officer arranged the work schedules of the teams among the various blocks so as to provide each team a turn to operate in every block. Local hospital teams worked in camps organized on dates fixed in joint consultation with the health officers. The broad directive was that a gap of one week to ten days be given between camps at the same block. The functioning of these camps were reviewed each week by the district magistrate and the health department officials. Appropriate remedial measures were taken whenever problems arose.

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TABLE 5

Religion-wise and Economic Status-wise Distribution of Persons Sterilized According to Number of Surviving Offspring

Economic Status	Persons Sterilized Having Children					
	2 or less	3	4	5 or more	Total	Average No. of Children
				Hindus		
Landless	11	24	24	48	107	4.2
Self-employed	5	12	12	9	38	3.8
Small Farmer	8	23	15	27	73	4.0
Big Farmer	2	6	5	5	18	3.8
Service	10	12	10	6	38	3.4
Total	36	77	66	95	274	4.0
				Muslims		
Landless	7	14	14	25	60	4.1
Self-employed	4	7	6	10	27	4.0
Small Farmer	1	1	0	7	9	4.9
Big Farmer	0	0	0	0	0	0
Service	1	3	1	1	6	3.5
Total	13	25	21	43	102	4.1
				Combined		
Landless	18	38	38	73	167	4.2
Self-employed	9	19	18	19	65	3.9
Small Farmer	9	24	15	34	82	4.1
Big Farmer	2	6	5	5	18	3.8
Service	11	15	11	7	44	3.4
Total	49	102	87	138	376	4.0

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II. Methodological Framework of the Follow-up Survey

With per capita income significantly above the state average, Meerut is one of the more highly developed districts of U.P. It accounts for around 2.5 per cent of the state's population, nearly 40 per cent of which resides in the Meerut region and has a population density about 700 per square kilometer. The density in the Meerut tehsil is around 1,200 per square kilometer. The district has recorded a decennial population growth rate of 25.30 per 1,000 during 1971-81. The sex ratio in the district, as indicated by the 1981 census, was around 830, and the literacy rate was nearly 35 per cent. The corresponding estimates for the Meerut tehsil were around 845 and 40 respectively. Nearly 68 per cent of the tehsil's total population were Hindus, 31 per cent Muslims, with only 1 per cent belonging to other religions.

Meerut district has a total number of 1,042 revenue villages, 940 of which are inhabited. Meerut tehsil has 273 of these inhabited villages. Over 30 per cent of the district's population resides in urban areas, more than 65 per cent of which is in the Meerut tehsil and account for about 50 per cent of the tehsil's population. Though the district and the Meerut tehsil in particular is agriculturally advanced, more than three-fourths of its farmers are small and marginal farm operators who together farm less than 40 per cent of the district's cultivated area. For the year 1978, the percentage of unemployed and underemployed to total labor force in the district was estimated at around 6.25.

Infrastructure facilities are fairly well developed in the district and the surveyed tehsil in particular. Meerut is one of the few districts of U.P. where all the villages are connected by roads. The length of pucca (paved) road per 1,000 square kilometer is around 210 km. Nearly all the villages are now electrified. Educational facilities at junior, senior and higher secondary levels are fairly well spread over the villages. The district has relatively better hospital and medicare facilities. However, less than 20 per cent of its villages have access to an allopathic hospital within 3 km. distance.

Meerut tehsil, where we conducted the present investigation, has five contiguous blocks, viz. Meerut, Rajpura, Rota, Kharkhoda and Jani. With 600 per block, the sterilization target for the tehsil for the year 1985-86 was set at 3,000. Actual achieve-

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TABLE 6

Family Structure of Persons Sterilized

	Age groups of Persons Sterilized						
	15-25	26-30	31-35	36-40	41-45	Above 45	Combined
				Females			
1. Number of children	3.0	3.8	4.7	5.5	5.0	—	4.2
2. Number of sons	2.0	2.5	2.8	3.3	3.1	—	2.6
				Males			
1. Number of children	—	3.1	3.9	4.6	4.4	4.1	4.1
2. Number of sons	—	1.9	2.2	3.4	2.7	2.3	2.6

ment in 1985-86, however, overshot the set target by over 20 per cent. The three main official agencies, viz. health, revenue and planning, and a few others like the District Industries Centre (DIC), were able to motivate a total of 3,646 persons to undergo sterilization operations. A follow up survey of the persons who underwent sterilization operations was carried out in June, 1986 in order to evaluate the quality of inter-agency performances and also to identify the factors motivating them to undergo sterilization.

A stratified sampling design was adopted. The villages for each block were arranged according to the Hindi alphabet and the persons sterilized were classified according to their respective villages. Within each village, persons sterilized were classified according to the agency motivating the case. From each village, a 10 per cent random sample was then drawn from the agency-wise classification of persons sterilized. Where the number of cases sterilized through any agency in a village was less than 10, it was not possible to draw a 10 per cent sample from the village per se. In such situations the cases motivated by the agency were added over two or more villages arranged alphabetically, and a 10 per cent sample was then selected for that particular agency from the grouped villages. The possibility of spatial bias was thus minimized since the villages were pre-arranged according to the manner described above. This selection procedure was followed in order to ensure that the agency-wise 10 per cent sample was spread over the maximum number of villages. By this it was hoped, the techniques of motivation employed by each agency could be adequately explored.

Special emphasis was given to studying the response of the Muslims to the sterilization program. For this purpose a different weighting scheme was adopted for the selection of Muslim cases sterilized in the tehsil. The Muslim cases in each village, irrespective of the motivating agency, were identified with the objective of selecting at least 50 per cent of such cases. Wherever necessary, the number of Muslims selected in the general sample was thus raised through an additional selection in order to include in the sample at least 50 per cent of the Muslims sterilized in any village. Besides this, we also included in the sample the sterilization cases motivated by the district administration through the D.I.C. Since the sphere of operation of the D.I.C. is primarily the urban areas, the cases motivated

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by the D.I.C. mostly came from the urban poor and industrial workers in urban semi-urban areas. To cover cases sterilized through this agency, camp-wise sterilization cases were grouped and a 10 per cent sample was taken from all such cases sterilized through the D.I.C. Here too, the same weightage was given for the selection of Muslim cases.

Due to the above departures, the sample size exceeded the 10 per cent limit. The questionaire was canvassed for a total of 425 cases of which 376 were found to be complete in all respects for detailed investigation.

The investigators were selected from all the three motivating agencies. To eliminate the agency bias of the investigators, the volunteers motivated by the revenue and planning department were surveyed by the health department and those motivated by the health department were surveyed by the revenue department. About sixty cases could not be traced in the first round of investigation because of incomplete addresses reported in the records. A large number of them pertained to the city. For all such cases, the motivators were entrusted with the task of compiling the information through direct contact with the persons sterilized.

Besides sex, caste and religion, the survey attempted to compile information on several socio-economic and demographic characteristics. Age at marriage of the husband and wife and their ages at the time of operation on either of the spouses were collected along with information on the number of surviving children. Similarly, information on the sex distribution of the children was collected along with the details regarding the sequencing in children's sex distribution. Other details on which information was collected in relation to the factors influencing the age of volunteers at the time of their operation were economic and educational status and the type of incentive provided or promised by the motivators. Information on economic status was used to classify the cases according to the following five categories: landless, self-employed and artisans, small farmers with less than 5 acres of land, large farmers, and persons in employment. Similarly, information on educational status was obtained according to the following four levels attained: illiterate, primary, secondary, and higher education.

The government is presently offering persons sterilized a cash incentive of Rupees 165 for those with two children and Rs. 140 for those with more than two children. This includes

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incentive money, transport costs to and from the camp as well as expenses for diet during the period of convalescence. During our preliminary field enquiries we found that a system of informal incentives was also used by the motivating agencies to recruit persons for sterilization. The motivating agencies had extended, on priority basis, benefits from the various development programs to qualified persons who volunteered to undergo the sterilization operation. In this process of informal understanding and cooperation, incentives such as loans under various development programs, land pattas for house-sites, services or other incentives such as opening of roads, water channels or removal of organizational bottlenecks were offered. In order to examine the extent to which this system of informal incentives has contributed to the realization of the sterilization target in the surveyed tehsil, we have collected information on various such incentives offered by the motivating agencies. We also found during our preliminary field enquires that in several instances persons were promised benefits which were not honored afterwards. Since allurement with unkept promises can adversely affect future implementation of the programe, we sought to record information of all cases where the incentives promised were not honored.

III. Major Findings

During our field investigation we were told that although the target set for sterilization was on a financial year basis i.e. from April to March, actual implementation of the program for the year 1985-86 started only after the monsoon. The period from April to June is generally very warm and the people are busy with harvesting and sowing operations. The monsoon months are invariably avoided by the people because of the difficulties in reaching the PHCs, the possibility of septic reaction and a general belief that recovery would be slow during this period. Usually, the program gets underway from the month of September, and attains a peak immediately after the rabi sowing in the months of December-January. Even during this period the responses to the camps are greatly affected by the weather. We were told that expected turnout can be reduced by as much as 90 per cent on a cloudy day.

The efforts made by the district officials for obtaining maximum help and cooperation from the available institutions

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at the grass root level appeared to be the major contributing factor behind successful realization of the sterilization target in Meerut tehsil. The district officials exploited the cross-currents of inter-group and inter-personal rivalries among the local leadership and were able to mobilize all the influential people in a competitive spirit towards achieving the target set for sterilization. Thus, the block pramukhs were incited into competing and ensuring that their respective blocks attained a position both at the district and tehsil level. A competitive spirit created among the blocks along this line soon made the attainment of the sterilization target a matter of personal pride for the block pramukhs. This positive attitude of the block pramukhs helped considerably to mobilize public support right down to the grass root level. The prestige attached to the block for attaining the sterilization target necessitated the pramukhs to mobilize full support and cooperation of the village pradhans.

The support of the village pradhans, however, was not easily obtained except from those belonging to the pramukh group who took the task as a matter of personal pride to ensure recognition of their leaders and the block. Although the anti-pramukh pradhans made all possible efforts to lower the status and prestige of the block pramukh vis-a-vis the sterilization program, in some cases their actions helped significantly to achieve sterilization targets. For example in one block the anti-pramukh pradhans themselves organized sterilization camps with due permission from the officials in order to impress the district administration that they had better control over the mobilization of people for sterilization than the pramukh. In some other cases, however, the anti-pramukh groups were successful in restraining the villagers from participating in any significant way in the program. This sort of group rivalry was reported from three out of the five blocks surveyed. We were told that the intervention made by the block officials with local leadership was able to amicably settle this group rivalry in only one block.

The pradhan is the grass root public representative of the village. Typically, a pradhan is always in the midst of intense group rivalry with the opposing group missing no opportunity to have him dismissed, suspended or even disgraced. Under the panchayat act, the sub-divisional officer is the investigating

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officer for any charges made against a pradhan having the power of suspending or dismissing him if found guilty on any charge. Therefore, a pradhan is not only under pressure from his block pramukh but is also constantly under pressure to keep the sub-divisional officer satisfied on any task assigned. In our conversation with the officials of the district administration we were informed that as the sub-divisional officers were given the charge of implementing the sterilization program, the pradhans generally showed an interest in the project to keep them well disposed. Thus, the pressures from the block pramukhs, the sub-divisional officers, and the competitive spirit generally kept the pradhans fully involved in the implementation of the sterilization operations.

The family planning program by its very nature of touching upon the personal life of the individual is a difficult program to implement. The pradhans, patwaris, VLWs or health workers are asking the person to curtail his/her reproduction ability and the consequent economic benefits thereof for the sake of long run betterment to the society. This appeal for improving the social welfare, however, did not motivate the people in the surveyed villages till they were provided with immediate economic benefits. The involvement of the revenue and planning agencies in the program implementation further encouraged the people to press for a bargain deal. Since the patwaris or VLWs have the capacity to provide various economic reliefs to the villagers, they were viewed not only as the propagator of a program but also as someone having the power to provide relief. The mechanics of motivating a case in the survey area thus became one of settling a bargain. The immediate necessity of the individual, the general reputation and influence of the patwari or VLW, the initiatives of the local leadership at blocks and village level and the dynamism of the district authorities all contributed to influencing the choice of which agency the volunteer would decide to go to for sterilization. The pradhan played the most crucial role in this process. In villages where there was intense competition between the patwaris and the VLWs, the pradhans intervened and settled any dispute between the two.

Other aspects apart, the ability of the pradhan to improve the village's amenities or to bring more economic benefits became a part of the bargain in implementing the family planning program. The pradhans played a key role in this bargaining

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process. The pradhans of some villages sought clearance of some matters of public interest or promises of some village amenities like roads, etc. before guaranteeing attainment of the village sterilization target.

As mentioned earlier, a total of 3,646 persons were sterilized in the Meerut tehsil in 1985-86. Of these, nearly 40 per cent were motivated by the health department, around 35 per cent by the planning agency and the remainder mostly by the revenue department. Table 1 presents agency-wise age distribution of the sterilized persons selected in the sample. Of the 376 cases selected for investigation, 296 were females. Of these, 120 were motivated by the health department, 91 by the planning department, 78 by the revenue department and the remaining 7 by the DIC and others.

Over 85 per cent of the female cases sterilized through the health and planning agencies were below 35 years. For the revenue agency, the percentage was lower, around 70 per cent. Most of the males who underwent sterilization were above 35 years. Our sample data, however, clearly indicates the sex-bias in program implementation. We were told that because of male domination in the households whenever a couple agreed to undergo sterilization, it was usually the wife who was directed by the husband to undergo it.

It is interesting to note that compared to other agencies the planning department had a relatively better performance record in motivating men for sterilization. Scrutinizing individual returns we found that the relative success of the planning agency in motivating the males was primarily due to its capacity to offer attractive economic incentives for sterilization. Also, the agency was lax in selecting persons from the targeted age groups. There were cases where above 60 year old widows and widowers with 5 or more children were offered loans, house sites, etc. for undergoing sterilization operations.

With the induction of the revenue and planning agencies into the family planning program the motivational aspect underwent a change. The health workers motivated cases mainly through personal contact by providing medicines, child care and general treatment facilities. The health staff drew their volunteers mostly from the fixed income groups or from the lower middle classes. During our field investigation we found that due to the frequent visits by the health staff, most of these

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people were well aware of the importance and personal benefits of the family planning program.

Cases motivated by the revenue and planning agencies came mostly from landless agricultural workers, and from small and marginal farmers. The cases drawn by these agencies were largely brought with the assurance of a house site for the landless, or a land patta for the small or marginal farmers. There were very few cases of affluent farmers being motivated by the governmental agencies. A large number of cases motivated by the revenue department were drawn from the towns. They were motivated with the promise of a loan under the urban poor scheme. Other cases drawn from the rural/urban areas came from the self-employed group or those financed for self-employment.

Table 2 provides sex-wise, caste and religious composition of the respondents. Age at sterilization followed a similar pattern across castes and religion. Generally, more females underwent sterilization operations below 35 years while more males volunteered only after crossing 35. The pattern of age distribution at sterilization suggests that the motivating agencies were relatively successful in persuading young females for sterilization only from among the upper caste and jat families. It may be noted, however, that in the surveyed tehsil most of the upper caste families have fixed sources of incomes from service. Typically, these families are better educated, well aware of the family planning programs, and frequently visit health department staff for medicare and other facilities. Also, among the jats there appears to be a general awareness to limit the family size, lest the family property and particularly the agricultural land might get sub-divided among the heirs and reduce thereby the social standing of the family in the village community.(1)

Table 3 provides the economic status of the families of selected persons sterilized. As can be seen, most of the persons who underwent sterilization were either from low income families or had with uncertain sources of income. Big farmers and those in services constituted less than 20 per cent of the sterilized persons in the selected sample. Landless workers, both male and female, were the most important group on which the implementation of the sterilization program appeared to have been targeted. The motivators, however, have failed to motivate the young of this group. Only around 10 per cent of landless females below the age of 25 years were sterilized and

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another 30 per cent between 26 and 35 years. As will be shown later, this lack of focus in the program implementation is defeating the very purpose for which the family planning program is launched, namely limiting the family size to two or three children.

Table 4 provides the average age at sterilization of the persons sterilized according to religion, caste and economic status. The average age at sterilization of the females was estimated at 30.7 years and that of the males at 39.7. The corresponding average ages of the spouses of the persons sterilized were estimated at 37.8 and 34.8 years respectively. No significant difference in average age at sterilization was found between the Hindus and Muslims, though it was slightly higher for the latter community, particularly for its males. Caste-wise, however, differences were observed. Average age at sterilization for jat women was the lowest, being 29.0 years. The scheduled caste women turned out for sterilization operations at a considerably late age, above 31 years. Among the males also, both the scheduled castes and Muslims volunteered for sterilization at an age above 40 years. Little reliance could be given to the low average age obtained for the gujar males as it was based on a single observation covered in the sample.

Among the various economic groups, the lowest age at sterilization for females was obtained from the service category, followed by big farmer, self-employed, small farmer and landless. For males, the estimated average age at sterilization was more or less the same across the economic groups except for the big farmer category where it was estimated at 33.5 years. Thus, it appears that the motivating agencies efforts have contributed little in influencing the socio-economically backward classes to undergo sterilization operations at an early age.

Table 5 provides details of the religion-wise and economic status-wise distribution of persons sterilized according to their number of surviving children. Only around 13 per cent of the persons sterilized underwent operation after having two or less number of children, irrespective of their religion. In contrast, nearly 35 per cent of the Hindus and over 42 per cent of the Muslims accepted sterilization only after having five or more children. Although more Hindus with 3 or 4 surviving children accepted sterilization than those from the corresponding Muslim community, the willingness to undergo sterilization after a desired number of surviving children followed similar

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pattern in both the communities. There were too few persons who were willing to accept sterilization with less than 3 or 4 surviving children. The only exception was the service category where 25 per cent of the persons sterilized underwent operation with 2 or less number of children and another 34 per cent with 3 surviving children. Landless persons responded least to undergo sterilization with less number of children. This is clearly reflected by the average number of children computed for each of the five socio-economic groups. Irrespective of the religion, the average number of children increased steadily as the risk and uncertainty in household incomes increased. For persons in service categories, which usually have assured household incomes, the average number of children was estimated at 3.4. It became 3.8 for big farmers, 3.9 for self-employed, 4.1 for small farmers and 4.2 for the landless – a gradual progression which uniquely correlates with the economic condition of the respective groups.

Since the focus of the family planning program is to limit the number of children per couple at 2 or 3 it would be of interest to analyse family size of the persons sterilized according to their age groups. As can be seen from Table 6, age group-wise, the average number of children of all those sterilized steadily increased till the age group 36-40 after which it started falling due to various reasons, including the death of children. Also, a husband or a wife only rarely volunteered to undergo sterilization before achieving the desired sex composition of the children which turned out to be at least two sons. Given these facts as obtained from our sample and given the objective of the family planning program to limit the number of children per couple to two or three, it would be pertinent to enquire to which particular age group the motivational efforts for sterilization should be more directly focussed. Our sample data suggests that such efforts should be directed towards women below 25 years, and men below 30 years.

In this context, it would be of interest to report the criteria used in the surveyed villages for the selection of eligible persons for sterilization. We were told that all women below 45 were considered eligible for sterilization and also entitled to the incentive benefits. For men, no such age eligibility condition was used. As can be seen from our survey data the wide open age-eligibility criteria used for motivating sterilization cases had in effect helped little to restrict the birth rate at the desired

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level. The motivating agencies appeared to have been successful in attracting persons for sterilization mostly from an exhausted generation which had already completed the desired family size, and that too by offering attractive incentives.

Some idea of the social costs involved in this off-the-target implementation of the program can be had from our survey data. Table 7 provides information on various material benefits in addition to the standard monetary incentive, that were offered to inducing persons to accept sterilization in the Meerut tehsil. About 40 per cent of those sterilized volunteered themselves to undergo the operation without asking for any additional benefit. The rest bargained for some benefit besides the standard monetary incentive provided in the program. The maximum number of people were inducted by providing a loan. Offer of a land patta figured next. Only three were motivated by the offer of work while six others were induced by extending minor reliefs.

The informal incentive system did not appear to be biased in favor of any religious group. However, it was more freely used when seeking to attract people from the relatively backward socio-economic groups. Thus, less than 35 per cent of the persons sterilized from the large farmer category received any kind of an informal incentive, while for the household service category it was only around 15 per cent. In contrast, over 75 per cent of the landless volunteered for sterilization only after securing a bargain incentive. The corresponding figures for the self-employed and small farmer categories were respectively 70 to 60 per cent approximately. *Prima facie*, there appears to be no reason to raise objection to the offer of informal benefits, as the informal benefit system was mostly offered to the socio-economically deprived classes. Unfortunately, however, most of the members of these classes who agreed to sterilization had already attained a family size of 4 or more children. To the older generation of the socio-economically backward classes, the sterilization program has thus become a bonanza for securing more benefits.

Several facts came to notice during our field investigation. It was reported that when incentives or reliefs remained merely a verbal promise, camp attendance thinned out at the last moment. However, where the volunteers were assured of some form of guarantee in the implementation of the promise, such as the issue of a loan letter immediately after the operation,

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eighty per cent of the cases turned out on the promised date. This was best illustrated by the cases motivated by the DIC. At all the camps attended by the DIC, the response to promises was above 80 per cent, primarily due to the distribution of urban loans immediately after the operation. A large number of cases motivated by the DIC also happened to be the Muslims.

There appears to be a controversy about Muslim participation in the program. One aspect that came out clearly during our field investigation was the reluctance of Muslims to publicly admit that they had undergone a sterilization operation. This was mainly because of the social sanctions against sterilization imposed by Muslim conservatives. As a result, we were told that a number of rural Muslims in the surveyed villages preferred to accept sterilization at unknown places without taking the help of any motivator. Even in cases where they were operated at the PHC, it was generally at a pre-appointed hour with the doctor. This conservatism among the Muslims was less apparent among those residing in the city, who came in large numbers to attend the camps. At a single camp where the DIC participated, about 25 per cent of the cases operated were Muslims and amongst them a majority were males. All these cases were brought from the city and were transported to and from their homes. On the other hand, Muslim volunteers from the villages operated on through the motivating agencies were secretive about their departure and arrival times. In some cases the Muslim community reacted by barring sterilized women from reading namaz. However, there were exceptions. In one village the loan incentive and group rivalry succeeded in motivating large numbers of people irrespective of their religion.

This veil of secrecy created problems in surveying some of the cases selected in the sample. In one case the interviewer was threatened for spreading canards that the lady to be interviewed had undergone sterilization. The neighbors were pacified only after assuring them of the possibility of a mistake. The interview, however, was quietly completed on another day. Similarly, in another village a woman refused to answer the questions and denied sterilization. In this case the lady was motivated by the patwari on whom she had confidence for preserving privacy. She declined as the interviewer was a health visitor. Timely intervention of the patwari helped to fill the questionnaire.

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Our sample data indicates that within any particular economic group, the Muslims did not have larger families than their Hindu counterparts. The size of the family appeared to be related to the economic status and to the occupation of the male member of the family. The hypothesis that Muslims are anti-pathic to the program was not supported by our investigations as the family size in each of the economic classes turned out to be almost the same. The other argument advanced is that Muslims do not freely participate in the program. This cannot be refuted because a large number of them prefer to be operated in secrecy. Their absence in large numbers from the government sponsored family planning camps cannot be taken as evidence of their rejection of family planning.

IV. Concluding Observations

Although the focus of our investigation in this paper has been on the sterilization program, we initiated the present study in a more general context. With the pressure of accountability now imposed upon the district administration for the attainment of set targets at the grass root level, we were interested to know how the officials involved in program implementation were responding to the targets what changes they were making in implementing the programs to enable them to achieve the set targets, and what consequences such changes would have in the implementation of future programs. It was with these general questions in mind that we initiated the present study of sterilization programs. Deliberately we carried out our investigation in a socio-economically more developed area where the chances of attaining the set targets were relatively high. The purpose was to examine how, even in a favorable environment, the people responded to a program, the acceptance of which is generally believed to be against traditional norms and social ethos.

Several conclusions follow from our investigation. Successful implementation of a program at the grass root level will depend crucially upon the efforts of the officials in securing involvement and support of the local people and upon local leadership for the program. One of the main reasons the sterilization target in the surveyed area was easily attained was the success of the district administration in involving the local leadership at every stage of program implementation. In fact,

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the ingenuity of the officials in exploiting the cross-currents of leadership rivalry at the grass root level helped in many places to create an atmosphere conducive for the program. The use of such innovative strategy, however, is possible only if the administrative officials have an intimate knowledge of each local situation. This is a necessary must for the successful implementation of any development program — a requirement that is not normally met because of the frequent transfers of the officials from one area to another.

To what extent does targeting help in attaining the objectives of a program? Our field experience from this study suggests that such a strategy in program implementation might just as likely defeat the very objectives for which the program is designed. When over-emphasis is placed on narrowly defined targets, short term considerations divert the attention of the officials, who tend to take up implementation as a one-shot operation, not as a continuing spread over a number of years. As already reported, the district administration in the surveyed area was under tremendous pressure to meet the sterilization targets using only volunteer motivational methods. One consequence was the induction of several other agencies such as revenue planning, DIC, etc., and a system of informal incentive scheme in program implementation. This new implementation strategy was adopted as the administration found it almost impossible to achieve the targets through the educational and medicare programs of the health department. In the process, however, the informal incentive system built up expectations among the people and further complicated the task of the health department's continuing efforts to motivate people in favor of birth control measures. During our investigation, health department officials reported that as a result of competition between the various agencies to reach the sterilization targets, the health department staff had become considerably demoralized, since unlike other agencies, field workers of the health department had nothing to offer to attract volunteers, except medicines and medicare advice.

Despite this problem, the use of informed incentives would have been worth while if it been able to attract people with two or three children for sterilization. As we have seen, the inducement through informal incentives helped to attain the set targets only by attracting those who had already achieved their desired family size.

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However, this defect in implementation was primarily due to poor planning and organization of the program. For instance, the program was launched without collecting even preliminary information on family characteristics and family age structure. If those were known at the planning stage, the wide age eligibility criteria might have been narrowed. Similarly, motivational efforts were directed to individuals, not to families. Implementation proceeded without involving the family in the family planning program. Had it been otherwise, sex bias in the program might have been reversed. Thus, even though the patwaris, the VLWs and others faithfully followed the procedure laid down for attracting volunteers, poor planning defeated the very purpose for which the program was launched.

Our field investigation reveals the limitations of the incentive scheme, as devised, for motivating people for sterilization. Even with attractive incentives, persons from the socio-economically backward classes did not volunteer for sterilization till they attained their desired family size which was more than double the target set for the nation. Where persons came forward with two or three children they came mostly on their own. They were mainly from the upper castes with fixed sources of income and some level of education. This clearly suggests that to achieve the desired objective of the family planning program, education should be emphasized and ways and means must be found to make the program attractive to the poor.

If more attractive incentives need to be offered to induce people for sterilization, we would like to strongly support further sterilization programs. But the monetary incentive that is now given provides hardly any motivational incentive. The amount is less than ten days earnings of a farm laborer. We gained got the impression during our investigation that the formal monetary incentive rarely entered into the calculations of the persons sterilized. Those who underwent the operation did so either because they recognized the necessity for it or because they were attracted by the supplementary incentives. Whatever the form of incentive offered, formalization of the procedure is necessary; otherwise, favoritism and corruption are bound to surface.

We feel uneasy as we take an overview of the present governmental efforts to promote birth control through the family planning program. We are convinced that in the present socio-

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economic setting, governmental efforts for birth control must necessarily have to revolve around a well thought out incentive scheme. We are less convinced, however, regarding the effectiveness of the present practice and procedure in distributing incentive benefits for birth control. We are of the opinion that government should make more effort through training and education programs, to encourage young people to accept family planning as the basis on which they can build a more secure future life – catching the imagination of the people when they are young, as boys and girls in their teens.

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THE DISPLACED YANADIS OF SRIHARIKOTA ISLAND: A STUDY OF CHANGING INTERACTIONS BETWEEN ENVIRONMENT AND CULTURE

P. SUDHAKARA REDDY and A. MUNIRATHNAM REDDY
Sri Venkateswara University, India

The Yanadis, a Scheduled Tribe of Sriharikota Island, were forced to migrate from the island to places outside the island. They had to adjust to the new environment and this resulted in socio-cultural changes. This paper describes the environment and culture before and after the displacement.

Alterations in geographical environment or migrations into a new environment lead to changes in the socio-cultural systems of a people. When any population migrates from one environment to another, it faces the problem of adjustment or adaptation to the new environment. In its adjustment to the new environment it undergoes changes in its cultural and social conditions. Similar processes of change in the environment-culture-interaction occurred with reference to the displaced Yanadis of Sriharikota Island with whom the present study is concerned.

Sriharikota Island is located in Sullurpet taluk of Nellore District in Andhra Pradesh (Map 1). This island is a somewhat spindle shaped mass, being 56 kms. long from North to South and 9.6 kms. broad East to West at the widest point, and is separated from the mainland by a lagoon or marsh (Pulicate lake) as well as by a transport canal (Buckingham canal) on the West, and the Bay of Bengal on the South and East (Map 2).

Ecological and Socio-Cultural Disposition of the Yanadis Prior to Their Displacement

Sriharikota Island, the former habitat of the Yanadis, was unique in its own way. It had three seasons. These comprised the dry weather between January and March, the hot weather from June to September, and the North-East monsoon, which commenced from October and extended into December. The latter was characterized by heavy rainfall, strong winds, frequent cyclones and generally inclement weather.

The soil was everywhere sandy and the relief was made up of sand plains, fixed dunes, blowout basins, and, on the lagoon

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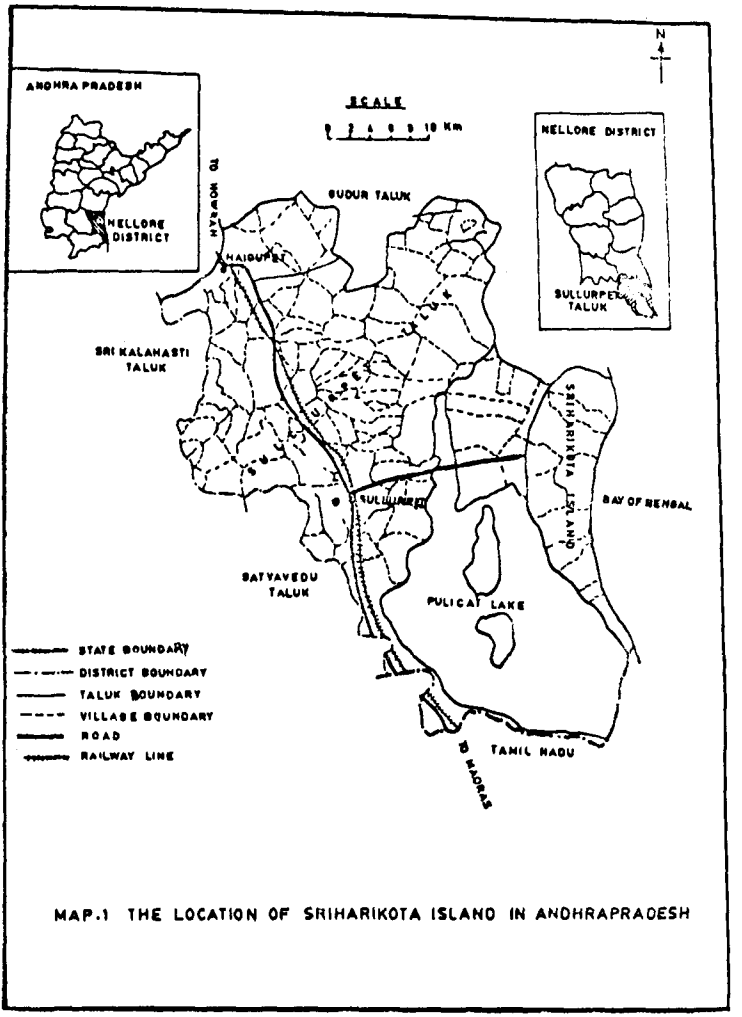

MAP.1 THE LOCATION OF SRIHARIKOTA ISLAND IN ANDHRAPRADESH

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margin, marshy plains. The dune sand extended over about half a kilometer all along the sea coast on the East. The sandy soil contained humus all over the island. Before their displacement the most unique and characteristic adaptation of the Yanadis to their simple environment was in their response to the sandy soil. The Yanadis had no floors to their huts and they were intimately in contact with sand all of the time. They had developed a remarkable ability to identify the foot prints of individual people as well as of different kinds of animals.

The island could be divided into three biotic zones: the forest zone, the marine zone and the zone consisting of domesticated flora and fauna. The entire forest area extending over 70 sq. kms. was one zone. The forest zone was the main source of subsistence to the Yanadis. It gave an appearance of vast contiguous closed forest interrupted here and there by smaller patches of closed scrub with scattered trees. Evidently this growth meant that the physiological dryness of the soil was counteracted by the high water table and the rainfall. A variety of animal life, ranging from wild pigs to jungle fowl and rats, inhabited the jungle and provided sufficient game food when hunted. A large number of plants of yams and tubers of medicinal and economic value abounded in the forest zone, and the Yanadis knew the properties of each plant and animal. They used to gather roots, fruits, leaves and honey for their food and knew well the best use for each variety.

The government took over the island in the year 1835 and brought many changes in the ecology of the island. It introduced casuarina, eucalyptus, cane and cashew nut into the Yanadi economy. At the same time the government framed special forest rules and applied them to protect the forest and to collect selected minor forest produce. Moreover, the government encouraged the farmers to plant casuarina. As a result, the economic value of the forest resources increased.

The second or marine zone consisted of the lake, the canal, the estuaries, the lagoon and the expanse of the sea. It provided an ample supply of fish, molluscs, prawns, crabs and tortoises to the Yanadis.

The third zone, characterized by plant cultivation and stock-raising, consisted of most of the villages along the western side of the island. The villagers cultivated finger millet, paddy, coconut, tamarind, mango and vegetables. Cultivated fields, the pastures of short grasses and deep man-made ponds consti-

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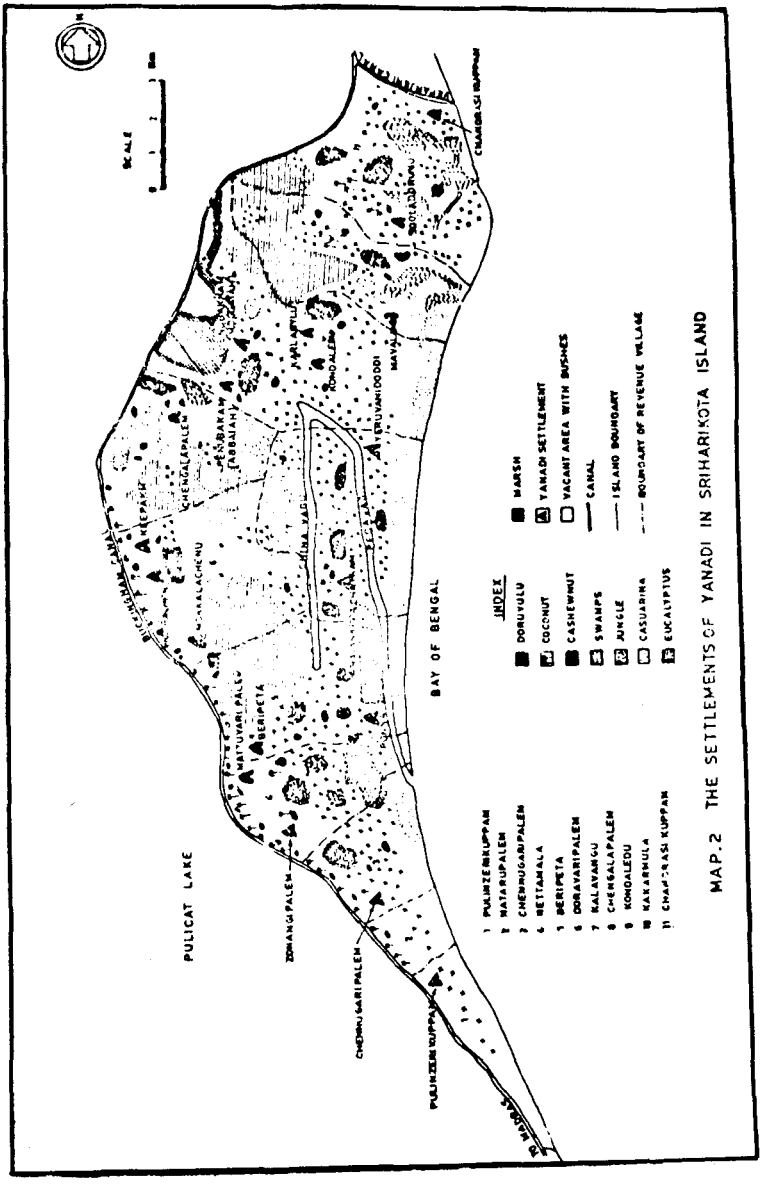

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tuted the immediate surroundings of villagers in this zone. The Yanadis worked in the plantations owned by the village farmers, and depended on the villages for cereals and goods.

The Yanadis were primitive in the sense that given their simple technology they were limited in terms of the amount of energy they could harness from the environment described above. They depended entirely on food obtained from terrestrial and aquatic sources. Food collection was not merely the means of livelihood; it was also a way of worshipping the supernatural.

The Yanadis utilized local resources for the construction of their dwellings and for making the tools and other artifacts used in their daily life. The technology of dwellings of the Yanadis was coordinated with the nature conditions. The hut was oval in shape and circular at the base without ventilation. It was an all purpose enclosure distinctive to the Yanadis. Most of the household materials were simple and prepared locally. Fire was produced by friction methods. The digging stick was the most important tool used in food gathering.

The expert knowledge of the Yanadis about the jungle and different opportunities provided by the government to the Yanadis in exploitation of the resources of the forest resulted in the formation of two endogamous groups: the Sarkar Yanadia and the Company Yanadis. Some Yanadis lived under the surveillance of the Forest Department, engaging in the collection of minor forest produce and plantation works and inhabiting settlements organized by the administration. These were designated as the Government Yanadis or Sarkar Yanadis. On the other hand, the Yanadis who were working as wood-cutters for private contractors were known as the Company Yanadis. Adequate supplies of wild produce, timber cover for shade and protection, fine sand for physical comfort, water ponds for potable water and elevated places for drainage facilities formed the essential criteria for the establishment of settlements by the Sarkar Yanadis as well as the Company Yanadis.

The economic organization of the Sarkar and the Company Yanadis was based on wage labor, food gathering, hunting and fishing, and reciprocal obligations among kinsfolk. Although the forest labor formed the primary occupation to the Sarkar Yanadis, fishing, hunting, and collection of fruits, roots and tubers remained important as subsistence activities. Similarly, wood-cutting under the system of coupe contractors formed

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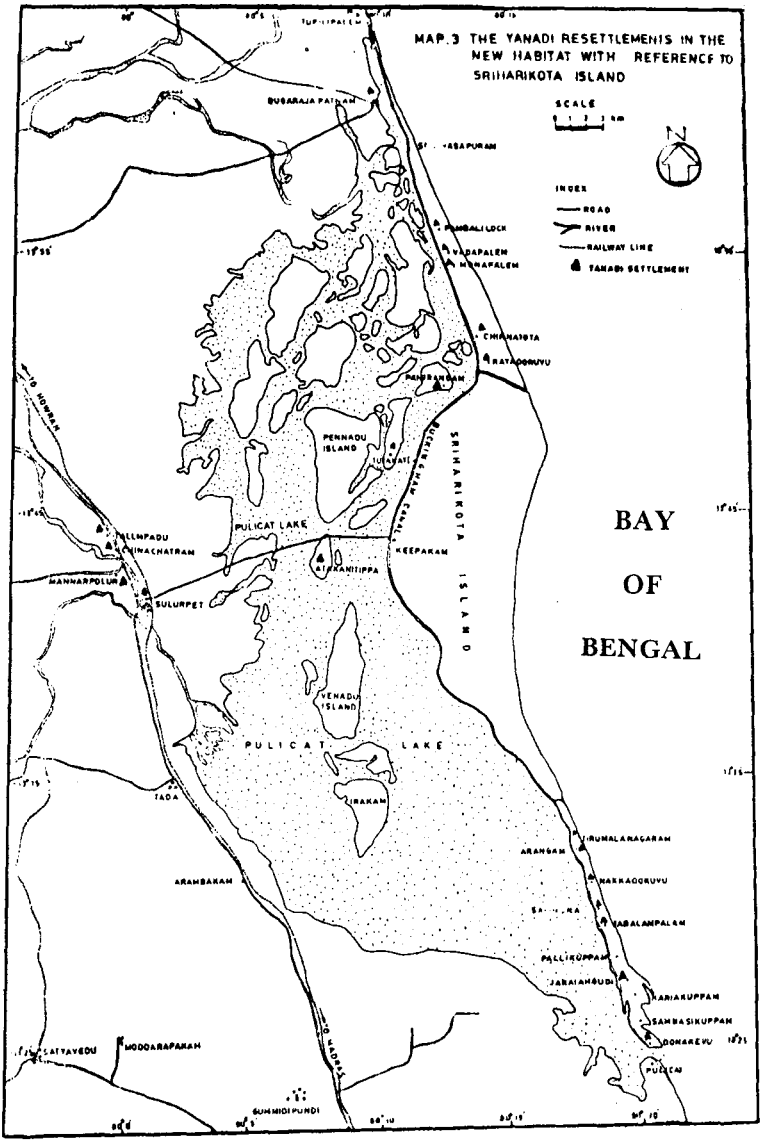

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the primary occupation of the Company Yanadis and this was supplemented by gathering, hunting, fishing, goat-rearing, plantation works and other activities. Every morning the Yanadis went to labor work, and on their way back they could collect edible tubers and leaves and hunt birds, squirrels or fish in the nearby fishing grounds for the day's consumption and reached home by dusk. The Forest Department and the coupe contractors paid the Sarkar Yanadis and the Company Yanadis respectvely in cash or kind according to a scale of payments based on outturn.

The family was the production unit and the husband and wife cooperated in planning their own activities in exploiting the resources. At the settlement level the *maistry* (headman) and the *taneer* (assistant headman) directed and coordinated socio-economic activities as paid agents of the administration or contractor. Cooperation between the families existed on the basis of kinship and general reciprocity. The tasks performed were based on age and sex. The distribution of production was determined by different factors: self-consumption, wages for occupational specialists, gifts, exchange and barter.

The family was also the basic unit of social organization. Each settlement of the Yanadis consisted of 10 to 20 families of both consanguineous and affinal kin. The socio-cultural life of each sub-tribe centered around the nuclear family, and the agnatic descent group or surname group. Marriage was simple. Frequency of divorce was high. Widow remarriages were allowed. Each Yanadi settlement regulated its own affairs through the *maistry*.

Supernatural beings, religious practitioners and magic were the most important aspects of the Yanadis' world view. Besides *Chenchamma*, to whom they prayed at every moment of their daily life, there were other supernatural beings such as nature spirits, ancestral spirits, village deities and malevolent spirits whom the Yanadis propitiated as occasion demanded. Shamans acted as an intermediary between the supernatural beings and the people. Whenever the Yanadis experienced any difficulties in their relationship with, and exploitation of nature, they used divinations to find out which spirit was angry and in what way they had to appease that spirit. Every family conducted ancestor worshipping rituals once or twice in a year, particularly during the toddy season – alcoholic toddy being used as a prime offering to the deities. Drum-beating, singing, merry-

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making and dancing were important recreational activities.

Displacement of the Yanadi Islanders

In 1969, the Yanadis of Sriharikota Island were forced by the government to migrate to places outside the island to permit the establishment of the East Coast Rocket Launching Station at Sriharikota Island by the Indian Space Research Organisation, Government of India. The evacuation program was simultaneously linked with a rehabilitation program. About 24% of the Yanadis were rehabilitated in colonies provided by the government and the remaining 76% settled at places of their own choice (Map 3). The Yanadis who were rehabilitated in government colonies soon found that they could not adapt themselves to the new conditions and migrated to other locations where their kinsmen were already beginning to adapt themselves to their new environment, and where adequate resources or employment potential for wage labor were available.

Ecological and Cultural Adjustments Following the Displacement of the Yanadis

Patterns of semblance and difference exist between the old and the new habitats of the Yanadis. The quality and quantity of soil, flora and fauna in the new habitat contrasts with those of the old habitat, and the new habitat has no secondary source of food collection or hunting grounds, and inadequate fishing grounds. Owing to the inadequacy of such supplementary sources of subsistence in their new habitat the Yanadis have to rely heavily upon wages earned by laboring in casuarina plantations, on farms and in nearby urban and semi-urban centers. As the casuarina in their new location is not as profuse as it was in the old habitat, the Yanadis population has become widely dispersed in order to obtain subsistence.

Despite the fact that materials for the construction of huts in the new settlements are scarce, the Yanadis still feel more or less at home because their new huts, settlements, and casuarina gardens, surrounded by vegetation and fishing grounds, are sufficiently similar to provide them with a somewhat congenial background in which to lead at least a part of their old way of life. But the residential pattern in the new habitat is neither as ordered or as compact. Families from different old settlements

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now find themselves thrown together in the new settlements.

The old tools used for planting, felling and cutting timber are still found adaquate, but the natural supply of vegetable resources for food collection are absent in all except a very few of the new settlements. In some of the settlements, a few families have begun to grow yams in their backyards, but most of the old hunting implements have been discarded and the digging stick has become obsolete. Similarly, their fishing technology has improved in some places, and the older more primitive techniques of making fire (by friction) have disappeared. In other words, retention, modification, and oblivion of the old technology occurred according to the degree of likeness and differences between the old and new environments.

Rice continues to be the staple food of the resettled Yanadis. In fact, it has grown in importance, due to the decline in availability of supplementary foods such as forest produce, game, and fish. As a result of this dependency on fewer staple food sources the Yanadis have learnt to store small quantities of cereals and fish for periods of shortage.

Since their displacement, income from wage labor has become the principal source of cereal supplies. The Sarkar Yanadis can no longer work as forest laborers because there is no forest in the new habitat. However, because both the Sarkar and the Company Yanadis now work as wage laborers on casuarina plantations, their pursuit of common occupations has brought about the disappearance of the differences that formerly existed between the two sub-tribes, and consequently led to the integration and fusion of both sub-tribes.

In some parts of the new habitat, urban influences are discernible on the economy of the Yanadis. Some have taken to new occupations, such as field-watching, wood-splitting and porterage. Even domestic service and the care of domesticated animals have become supplementary occupations in the new habitat. Hunting and food gathering have been reduced to the level of rare events.

Significant changes occured in the system of timber cutting. The offices of headman and assistant headman disappeared. Cooperation based on generalized reciprocity is limited to a few families only. Individualism has increased in exploiting the resources and other economic activities. As mere wage laborers in the new habitat, the Yanadis no longer have a prolific supply of food at harvest time, and in consequence

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they have not only pruned many of their old ritual performances and feasts but also abandoned many of the ceremonies and gift making rituals that characterized their life in the days prior to their displacement. The monetization of their economy has increased in their new habitat.

In the changed situation, the family has ceased, to some extent, to be the unit of production. The participation of womenfolk and children in the round of daily labor has declined in the new habitat. Barter now plays a very minor role, largely because of the scarcity of natural resources, and all the material necessities of life tend to be purchased from shops.

On the island, the Yanadis used to place high value on the forest based economy viz., wood-cutting, collection of forest produce and hunting. However, in their new habitat most of them attach no value to gathering and hunting because there are no adequate opportunities to carry on such activities. Further, the gathering and hunting activities are now viewed as degrading, in conformity with the views of the caste people amongst whom the Yanadis now live on the mainland. The need to 'Think about tomorrow' is beginning to find a place in their minds.

After displacement, the settlement, the surname groups, the agnatic descent groups – and their affinals – all disintegrated and subsequently reintegrated with the old and the new local groups and kin groups respectively. Surname groups and agnatic descent groups still remain and retain their exogamous habits. The increased interaction of the island Yanadis with the mainland Yanadis has culminated in their virtual merger.

The Yanadi family is now nuclear and patrilineal. In contrast to his position in the old habitat, the male head has acquired more authority because he is now the main bread-winner. In the new habitat the superordination and subordination relationships between the parents and children have become stronger, and the increased economic dependency of women has lead to greater stability of the marital bond.

Their meager resources and lower level of living conditions in the new habitat do not permit the displaced Yanadis to conduct their old rituals. As they have difficulty in procuring the services of the old shamans in their more widely dispersed new habitat, the importance of shamans and divination has gradually declined. In cases of illness, some of the resettled Yanadis now resort to modern medicine in place of divination. The

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dispersal of families, the reorganization of their economy, the increased contact with new caste groups, the disappearance of food gathering and hunting, and the disintegration of the subtribes has brought many contingent changes.

In these circumstances, the Yanadis in the new habitat feel that their old gods and goddesses have turned hostile, and they are neglecting to appease these old deities. The recreational activities of their old habitat, centered on playing, dancing, merry-making, and visiting relatives and friends, have become less frequent because of a decline in leisure time and resources. The old institutions of headman and assistant headman no longer exist. By contrast, the participation of the Yanadis in political activities and elections is stronger than before.

Before their displacement, the Yanadis of Sriharikota Island had a many-sided association with nature. Their forced migration from their traditional habitat has weakened those ties, and has led to many adjustments to their new environment. In particular it has led to their substantial integration into the society and culture of the mainland, seemingly promising to result in their gradual integration with the mainstream of contemporary Indian culture.

REFERENCES

Reddy, Sudhakara, P.
1981 The Displaced Yanadis of Sriharikota Island: A Study in Socio-cultural continuity and change. Unpublished Ph.D. Thesis, Department of Social Anthropology, Sri Venkateswara University, Tirupati 517, 502.

Shortt, John
1874 "An Account of some Rude Tribe. The Supposed Aborigines of Southern India" *Transactions of the Ethnological Society of London*, Vol. III, New Series (1865), pp. 373-94.

Sumner, Cushing W.
1917 "Sriharikota and the Yanadis: A Sandy Island off the East Coast of India and its Inhabitants" in *Annals of the Association of American Geographers*, Vol. VII, pp. 17-23.

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THE BEEKEEPER'S MAGIC: TAKING A CLOSER LOOK AT THE OLD GERMANIC BEE CHARMS

MARIANNE ELSAKKERS

In this article two Old Germanic bee charms are examined for characteristics of oral poetry. An interpretation of the charms is offered which ties in with the practice of beekeeping.

As Spamer(1) has pointed out, Old Germanic (OG) bee charms were recited by beekeepers, not by magicians. What most critics have ignored, is the fact that beekeepers were illiterate and that the bee charms were therefore probably passed on by word of mouth for centuries. If this is true, the texts of the two OG charms that have come down to us will exhibit characteristics of oral poetry, and their function will be directly related to the practice of beekeeping.

Beekeeping

Both the Old English (OE) and the Old High German (OHG) charms are swarm charms. The object of such a charm is to make the swarm settle down somewhere nearby so that the beekeeper can catch it and convey it to an empty hive. If the swarm is not caught, the cluster will eventually disperse and the bees will go to a home of their own choosing. It is important to realize that swarms were of vital importance to the Old Germanic beekeeper, because his livelihood depended upon them.(2)

A symbiotic relationship exists between bees and beekeepers: the beekeeper is dependent on the bees for barter (honey and wax) and the bees depend on the beekeeper for protection from harm (e.g. animals, the sun, theft) and for extra food in winter. It is therefore not surprising that bees are treated as domestic animals — and not as wild animals (*res nullius*) — in most of the Old Germanic laws.(3) Old customs also testify to the treatment of bees as members of the family. In England, Germany and Holland it was customary for the beekeeper's relatives to notify the bees of the beekeeper's death by rapping on the hives.(4) As Spamer has observed the duties relatives have to one another are probably also applicable to the bees.(5)

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Oral Poetry

Unlike most literature in literate societies, oral literature is usually functional; one of its functions being to transmit information (such as laws, history, charms, stories) from one person or group to another but also from one generation to the next. Oral poetry is always linked up with some practical – often ritualistic – situation.

Essential to oral poetry is its *performance* in front of a live audience which often actively participates in some way. Singing, dancing or music reinforces the rhythm of the poetry. Thus the "somatic component"(6) and the words together constitute the poem. An oral performance is usually unique, i.e. subsequent performances (or compositions in performance) of the 'same' poem do not necessarily repeat a prior performance verbatim. Changes can be made and the text can be adjusted to suit the audience. Oral texts are flexible and that is why there are often variant versions of one and the same poem. Oral poetry easily accommodates changes in society such as a change in religion or a change in rhythmic feeling.

The human audience we must visualize for the bee charms is comprised of the beekeeper's family and relatives. When they hear him call the first lines of a bee charm, they will come to assist him, and when the swarm has settled, they will fetch the special skep for taking swarms. But, as we shall see below, the main part of the audience consists of the non-human members of the beekeeper's family, the bees.

In oral poetry we are often made very much aware of the presence of the audience. This can be done by interjections which call the attention of the audience or invite its participation and by syntactic devices such as direct speech, the use of the vocative, the imperative, or personal pronouns in the second person.

Since a poet in an illiterate society or group does not read his poem out loud from notes, memory aids must be built into the poem itself. Many of these mnemonic devices, usually embedded in the prosodic, stylistic, semantic and syntactic structure of the poem, fall under the heading of 'repetition.' One of the most important is parallelism. In OG poetry, repetition is also embedded in the rhythmic structure of the poem (alliteration and the four-stress line). The syntactic structure of oral poetry is characterized by the use of parataxis as opposed

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to hypotaxis, by simple verbal constructions and the use of direct speech.

The Old High German Bee Charm (Lorscher Bienensegen)(7)

1. kírst ímbi ist húcze
2. nu flíuc du uíhu minaz héra
3. frídu fróno in múnt godes
4. gisúnt heim zi cómmone
5. sízi sízi bína
6. inbót dir sáncte mária
7. húrolob ni hábe dú
8. zi hólce ni flúc dú
9. nóh du mír nindrínnes
10. nóh du mír nintuuínnest
11. sízi uílu stíllo
12. uuírki gódes uuíllon.

1. Christ, the swarm is out!
2. now you must fly, my livestock, here(8)
3. in the peace of the lord, under god's protection
4. in order to come home safe and sound
5. sit, sit, bees
6. commanded you, holy Mary
7. leave you have not
8. you must not fly to the woods
9. nor may you run away from me
10. nor may you detach yourself from me
11. sit very still
12. work god's will.

The Old High German text given above is the MS text, not the text emended by Hofmann which is given in most anthologies.(9) In most of the articles on the OHG bee charm emendations of some kind have been suggested. These emendations are either textually unnecessary or simply uncalled for because the MS text is unambiguous.(10)

The first line of the poem is an exclamation which has been very suitably translated by S. Sonderegger: "Jesses, das Bienenvolk ist weg"(11) and which, when heard, will warn the family of the beekeeper that a swarm has come off. It is the only line in which the human audience is addressed. This sets the first

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line apart from the rest; its function is comparable to that of the word *hwaet* in the OE charm which will be dealt with below.

The rest of the poem is directed towards the bees. The direct form of address is supported by a series of imperatives and conjunctives, most of which are reinforced by the structural repetition of the personal pronoun *du* or *dir* (lines 2, 6-10). The vocatives *uihu minaz* (line 2) and *bina* (line 5) are used to address the bees. The expression *uihu minaz* is a direct reference to the bees' duty to provide for the beekeeper;(12) one is tempted to translate 'my dear little providers'. Both vocatives are used collectively, although one can argue that the singular *bina* refers to the queen bee alone. But, whether the word is used collectively or not, the result is the same because the worker bees will follow their queen wherever she goes in the swarming season.

The syntax of the charm i.e. paratactic constructions and simple verbal forms points to orality. In line 4 the inflected infinitive *zi commone* is used instead of the subclause 'that you may come' and in lines 9 and 10 the conjunctive is found instead of the periphrastic verbal construction 'you may not run away'.

Parallelism, a stylistic device common in oral poetry, is also found in the OHG bee charm. The repetition of *sizi* in line 5 (and its recurrence in line 11) can be regarded as a form of structural parallelism. Lines 7 and 8 and lines 9 and 10 have parallel syntactic structures in which the meaning of the first line is almost exactly repeated in the second line.

Line 3 is usually said to contain semantic parallelism, as is illustrated by Ehrismann's translation:

in heiligen Frieden in Gottes Schutz

in which the word *frono* is considered a synonym of *godes*.(13) The whole line can, however, best be taken as an antithetical parallel construction in which two different protectors of the beekeeper (and of the bees!) are named: the lord on earth (*frono*) and the lord in heaven (*godes*). The practical nature of the charm in my opinion justifies this because *frono* then refers to a 'lord', law-enforcer or peace-officer, i.e. someone who in reality has the judicial power to restore a swarm to its rightful owner.(14)

In line 8 the bees are asked not to fly away to the woods

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where the beekeeper will be unable to find them. Lines 9 and 10 can both be taken to refer to the swarming itself, although it is possible that line 10 is concerned with the stage which comes after the swarming. The beekeeper's request is preceded by a command given by *sancte maria* (line 6). It is probably no coincidence that it is a woman who commands the bees because a bee swarm is for the most part made up of female bees and because female bees are of vital importance to the swarming process (the workers prepare the cell for the new queen bee and the queen bee leads the swarm). In the last line the bees are reminded of their duties, i.e. of the fact that it is god's will that they should provide for the beekeeper.

The Old English Bee Charm (15)

1. *wiþ ymbe*
2. *nim eorþan, oferweorp mid ðinre swiðran handa under*
3. *ðinum swiðran fet and cwet;*
4. *fó ic under fót, fúnde ic hít*
5. *hwaet*
   éorðe máeg wið éalra wihta gehwílce
6. *and wíð andan and wiþ áeminde,*
7. *and wíð ða micelan mánnes túngan.*
8. *and wiþ on forweorp ofer greot ðonne hi swirman*
   and cweð;
9. *sítte ge sigewif, sigaò to eorðan!*
10. *náefre ge wílde to wúda fléogan!*
11. *béo ge sva gemíndige mínes gódes,*
12. *sva bið mánna gehwílc métes and éðeles.*

1. In case of a swarm
2. take earth, throw [it] down with your right hand under
3. your right foot and say:
4. [if] I catch it under [my] foot, [then] I will have found it [i.e. the swarm]
5. listen!
   earth has power against all kinds of beings
6. and against malice and against negligence
7. and against the mickle tongue of man

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8. and then throw over [it] sand when they swarm and say:
9. you must settle, victorious women, come down to earth
10. never may you fly wildly to the woods
11. you must be mindful of my good[s]
12. as is every man of [his] food and land

Hardly any emendations have been proposed for the OE bee charm. Storms' emendation of *wið on* to *siððon*(16) in line 8 is not necessary, if we consider *wið on* an adverbial phrase with the meaning 'thereupon, then'. It is then a phrase comparable to other extant OE adverbs composed of *wið* plus preposition, such as *wið-aeftan* 'behind', *wið-uppan* 'above', *wið-ufan* 'previously' and *wið-utan* 'outside'.

The presence of an audience is implied by the interjection *hwaet* which means 'listen, look, stop'. *Hwaet* has been interpreted as "the initial chord struck on a harp".(17) The use of the verb *cweðan* (lines 3, 8) and not *singan* or *(on)galan*, however, suggests recitation. *Hwaet* is an exclamation with the same function as the first line of the OHG charm.(18) The syntax of the poem (direct speech, imperatives, the vocative and verbs in the second person) also gives us the impression that there is a live audience.

The OE bee charm can be divided into two parts. Both parts are preceded by instructions in prose. It is significant that the only hypotactic construction in the charm occurs in one of the prose parts (line 8). This may be an indication that the poetry belongs to an older tradition; the prose instructions may have been added as an explanatory note by whoever recorded the charm in the margin of the MS.(19)

The first part of the charm (lines 1-7) states that earth has the power to protect the bees from harm. This statement is accompanied by a ritual involving earth-casting and ground-treading. A parallel construction with *wið* (dependent on *maeg* which is used as a notional verb not as part of a periphrastic construction) stylistically links together four threats to the bees (lines 5-7);

1. *ealra wihta gehwilce* (e.g. mice, insects),
2. *andan* 'malice afore-thought' (e.g. a jealous neighbor who might want to steal or sabotage the hive),

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3. *aeminde* 'negligence on the part of the beekeeper' (e.g. forgetting to feed them or to protect them from extreme temperatures), and

4. *ða micelan mannes tungan* (i.e. anyone who misuses the bee charms to secure a swarm he has no right to).

Aeminde is usually translated by 'forgetfulness' or 'ungratefulness'(20) and taken to refer to misbehavior on the part of the bees. These translations are rejected here because the bees are not addressed until line 8 ff. and because in our interpretation four sources of danger to the bees which the beekeeper can avert, are grouped together. The first part of the charm is concerned with the duty of the beekeeper to take good care of his livestock; the second part (lines 8-12), as we shall see presently, concerns itself with the duties of the bees.

In the prose parts of the OE charm lines (2-3, 8) imperatives direct the beekeeper to take sand (*eorðe* in line 2, *greot* in line 8) and throw it. Throwing sand (or water) over a swarm of bees is an approved method to make a swarm settle. The prose instructions included in this charm therefore testify to the practical nature of the charm. It is easy to imagine the same kind of activities accompanying the OHG charm. The lack of prose instructions in the OHG text is probably due to the fact that every one knew what to do, just as nowadays the melodies to pop songs are widely known by the public.

Line 4 contains a paratactic construction with simple verbal forms and, as the translation shows, we now render a passage like this into modern English by using hypotaxis and periphrastic verbal constructions. The following children's rhymes – which are recited when walking along the sidewalk – contain the same kind of paratactic conditional constructions:

step on a crack
break your mother's back

step on a line
break your mother's spine

But these contemporary examples of oral poetry have more in common with the OE charm: in avoiding the cracks and the lines in the sidewalk, children attribute the same kind of power to the earth as the charm does. Stepping on an empty pack of Lucky Strike cigarettes (which is supposed to bring luck if you

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are the first one to do it) is another custom among children that can be compared to the ground-treading ritual in the OE charm. These contemporary customs illustrate what is meant by lines 2-4. The earth-casting and ground-treading in the charm bring luck and acknowledge the power of the earth; they constitute a magical gesture which previews the actual sand-throwing (line 8) which will make the bees cluster. The word *eorðe* is repeated no less than three times in the charm. It is one of many instances of structural repetition in the poem.(21) The earth-casting, ritualistic in the first part and practical in the second part of the charm, not only links the two parts of the poem together, but it also consolidates the bond between bees and beekeeper, i.e. it confirms their symbiotic relationship.(22)

In the second part of the charm (lines 9-12) the beekeeper appeals to the bees, calling them *sigewif*, to settle nearby and avoid the woods where they are sure to become a wild bee colony. Just as in the OHG charm the imperative is intensified by the addition of a personal pronoun (*ge* lines 9-11). Ever since Grimm and Kemble(23) mistook the bee charm for a charm about the valkyries (reading *his wirman* instead of *hi swirman*) the vocative *sigewif* (line 9) has been regarded as a special metaphor in which the bees' stings are compared to the valkyries' spears. The function of this metaphor in a swarm charm (bees are *not* aggressive at all when they swarm!) has never been considered. Although Storms remarks that the connection between valkyries and bees has not been proven, and Jongeboer complains that the metaphor severely strains his imagination, no one has offered a better explanation.(24) The epithet *sigewif* is, however, not as far-fetched as has been thought up to now. Because the swarm is almost wholly comprised of female bees the appellation *wif*, although grammatically neuter, is very appropriate. The swarm is to form a new bee colony, whereas its parent is destined to die; in this sense *sige-* is also a suitable chosen epithet, because in a manner of speaking the swarm gains a victory over the parent colony, when it escapes from the hive. The appellation *sigewif* can therefore be interpreted in such way that it is consistent with the practice of beekeeping.

Conclusion

As we have seen above, both charms exhibit so many of the

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stylistic, semantic and syntactic characteristics of oral poetry that we can hardly doubt the fact that they once belonged to an oral tradition. The prosody of the charms also points to orality.

Rhythm in OG verse is usually achieved by alternation of strong and weak stressed syllables. Usually three of the four strong stresses per line are marked by alliteration, i.e. repetition of initial sounds. Besides being characteristic of OG verse, alliteration is also a mnemonic device which is often used in oral poetry.

In both bee charms most of the lines alliterate, but the expected pattern of three staves and four strong stresses is only found in lines 4 and 9 of the OE charm; the other alliterating lines contain only two staves.

Even more remarkable is the fact that the OE charm has four strong stresses per line, whereas the OHG lines contain three stresses.(25) The rhythm (stress pattern and alliteration) of the OGH line calls to mind the Old Norse *Ljóðaháttr*,(26) a verse form used especially for charms in which lines with four stresses alternate with lines containing three stresses and two staves.

In lines 7, 9-12 of the OHG charm alliteration is accompanied by full end-rhyme.(27) Alliteration was the line-structuring device in OG verse. In most Germanic languages rhyme did not become a structuring device until after the OG period. When we do find end-rhyme, it is usually only used for ornamental purposes. In OHG, however, end-rhyme was also in use as a structuring device in the written tradition and from the written tradition its use spread to the oral tradition.(28)

The co-occurrence of alliteration and rhyme in the OHG charm is indicative of the transitional nature of this version of the poem. Hofmann's(29) emendation of lines 3 and 4

fridu frono in godes munt
heim zi comonne gisunt

making it a rhyming couplet, disguises this and must therefore be rejected.(30)

Rhyme and the presence of Christian elements (*kirst, maria, godes*) in the OHG charm illustrate the ease with which the oral tradition incorporates new elements. The inconsistencies in spelling which we find in the MS texts of both poems (e.g. OE

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cweð – cwet / OHG *fliuc – fluc*) are characteristic of a society which is becoming literate.

The correspondences between the two swarm charms which were first noticed by Zupitza,(31) are found in the parts in which the bees are addressed, i.e. in the swarm charm proper:

sítte ge	sígewif	(OE 9a)
sízi sízi	bina	(OHG 5)
to wúda	fleógan	(OE 10b)
zi hólce . . .	flúc dú	(OHG 8)

The meaning of these two line pairs is identical, the same words are used (*sitte – sizi* / *fleogan – fluc*) and the lines contain nearly the same number of syllabes, with an OHG full line corresponding to an OE half line (an a- and a b-line respectively).(32) The first pair even alliterates on the same consonant and has the same syntactic construction (imperative, vocative). The main difference between the OE and the OHG lines is the number of stresses.

The similarities make one wonder if these verses ever belonged to a common tradition, but the differences, too, raise questions such as: Was there a special three-stress line for OG charms like the three-stress line we find in the ON *Ljóðaháttr*? Does the presence of only two staves in most of the alliterating lines point to some kind of development OE, OHG and ON had in common? Did the three-stress line alternate with a four-stress line? Did the three-stress line derive from what we now call a full line or from a half line? Or did the four-stress line develop from the three-stress line? If this is true, is that why an OHG full line can correspond to both an a-line and a b-line? It is clear that answers to these questions can only be provided by further research into the prosody of OG charm verse.

Formal analysis of the two OG bee charms reveals stylistic, syntactic, semantic and prosodic characteristics of oral poetry. As regards their performance in front of a live audience: there is ample evidence of the presence of an audience. All this makes it likely that the charms were recited by illiterate poets. The way in which the subject matter is dealt with (the dangers mentioned, the sand-casting and the requests made to the bees) confirms our hypothesis that the function of the poems is in keeping with the practice of beekeeping, and this in turn supports the

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findings of our formal analysis because beekeepers were illiterate in the OG period.

Oral theorists have made us aware of the difference between oral and written traditions; analyses of the specific *formal* characteristics of oral poetry have provided us with tools with which we can test hypotheses as regards orality; these same tools are used in the process of "oral learning, oral composition and oral transmission".(33) Besides an analysis of the formal differences between oral and written poetry, oral theorists have pointed out the importance of the *performance* and all that goes with it (active participation of the audience, the ritual etc.), thus obliging us to consider the *function* of poetry in illiterate societies.

The Old Germanic bee charms were, indeed, 'Old Germanic magic', but only when recited in front of a live audience (of humans and bees) and accompanied by the appropriate ritual.

FOOTNOTES

(1) J. B. Spamer, p. 280; see also H. Jongeboer, p. 63 ff. who – himself a beekeeper – also pointed out the importance of knowing about beekeeping when attempting to interpret bee charms.

(2) See for instance J. B. Spamer, p. 280 ff. or H. Jongeboer, pp. 63-64 on the difference between old-fashioned and modern beekeeping.

(3) Cf. *Lex Baiuvariorium* (22.8-22.10) in: K. A. Eckhardt, Bd. 3, pp. 176-179; J. W. Schotman, pp. 517-518. In OG laws pertaining to the Longobards and Visigoths a bee swarm is *res nullius,* i.e. it is treated as a wild animal; this is probably due to the influence of Roman Law in southern Europe. In the other OG laws in which the fines to be paid for bee-theft are comparable to those for stealing other domestic animals, the bee swarm is considered part of the livestock.

(4) Cf. J. W. Schotman, pp. 675-676 and K. Müllenhoff, p. 16. These old customs are dying out.

(5) J. B. Spamer, pp. 288-289.

(6) W. Ong, p. 67.

(7) The OHG text given here is the MS text: MS Palatina 220, Bibliotheca Apostolica Vaticana, Vatican City, fol. 58R; 9th century. The charm was written upside down in the bottom margin in a tenth century hand; the script is Carolingian minuscule; cf. note 10.

The translation is my own.

(8) 'Here': Dutch 'hierheen' or German 'hierher' would be a more accurate rendering of OHG *hera.*

(9) C. Hofmann, p. 110; W. Braune, p. 89.

(10) The facsimile published by F. Pfeiffer (opposite p. 86) – the writer of the first article on the OHG bee charm – is a very good drawing, but not a 'real' facsimile, like the ones published by A. Salzer (p. 20) and P. Schnitzer (Tafel 10; p.

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14). Pfeiffer's 'facsimile' has been the cause of some misunderstanding, because a number of emendations were based on his reproduction – notably A. Schirokauer (p. 63), who reads *folnic* for *fliuc* in line 2.

(11) S. Sonderegger, p. 181.

(12) *uihu* is related to Latin *pecunia* 'money' via *pecus* 'cattle, livestock'; IE *peku* 'wealth, movable property'. The bees are the beekeeper's working capital.

(13) G. Ehrismann, p. 112.

(14) In the OG laws pertaining to the northern part of Europe a bee swarm remains the property of the owner of the hive they swarmed from, even if the bees alight in a tree on someone else's land, cf. note 3.

(15) The OE text given here is the MS text; it was transcribed from a microfilm of MS 41, Corpus Christi College, Cambridge (fol. 182; 11th century), which is the property of the University Library, Utrecht. For practical reasons the thorns in the MS were replaced by ð's. The script of the charm which is to be found in the left-hand margin is Anglo-Saxon minuscule.

The translation is my own.

(16) G. Storms, p. 136.

(17) G. Storms, p. 132. A beekeeper accompanying himself on a harp or any other musical instrument does not, in my opinion, agree with the practice of bee-keeping, because there are more practical matters to attend to. If any instrument is used at all, it must be one capable of making a noise loud enough to summon family and neighbors. Ms. Ria Lemaire informed me of the fact that her neighbor used to bang together the lids of a pan.

(18) G. Storms, p. 132: "*hwaet*, a word that generally falls outside the metrical line and never alliterates."

(19) Unlike the OHG charms, OE charms are often accompanied by prose instructions.

(20) E.g. G. Storms, p. 135: 'ungratefulness'; H. Sweet, p. 100; 300: 'forgetfulness'; but: J. Bosworth & T. N. Toller, *Supplement*, p. 16: 'want of care (?), neglect'. F. P. Magoun (p. 23) was the first to observe that this part of the charm refers to three (!) external dangers which threaten the bees.

(21) Cf. E. P. Hamp, pp. 338-340, for a discussion of structural repetition in both charms.

(22) J. B. Spamer remarks that the beekeeper treats his bees "as if they were kinsmen . . . reminding them that they have an obligation to him" (pp. 288-289). What Spamer omits, is the obligation of the beekeeper – also a kinsmen – to the bees.

(23) Cf. J. Grimm, Bd. 1 p. 358, Bd. 2, p. 1040 and J. Kemble, p. 404. Kemble did not publish the second part of the OE bee charm.

(24) G. Storms (p. 138): ". . . another hypothesis, namely the identity of *sigewif* and valkyries, for which no proof is given"; H. Jongeboer (p. 69): "Eine etymologisierende Deutung als *bellonae* oder 'Walküren', was wieder dazu führte, dass man in dieser Zeile den Rest eines Schlachtliedes zu sehen glaubte, mutet wenigstens meiner Phantasie zuviel zu."

(25) The number of stresses (indicated by an acute accent) in some of the lines of either poem is, of course, debatable; the same goes for the alliteration. Like Jongeboer (p. 64) I think the OHG charm consists of 12 lines, not 6 lines.

(26) See for instance P. Hallberg, p. 13.

(27) End-rhyme is found in lines 5-12; lines 5-6, however, do not contain full end-rhyme (cf. W. P. Lehmann, p. 57).

(28) Cf. W. P. Lehmann, p. 51 ff.

(29) C. Hofmann, p. 110.

(30) It would be better if, in future, anthologies printed the unemended text.

(31) J. Zupitza, p. 194-195.

(32) The negative *ni* in OHG line 8 has a counterpart in OE line 10a: *naefre*.

(33) A. B. Lord, p. 5.

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REFERENCES

W. Braune (Hrsg.)
1979 Althochdeutsches Lesebuch. 16. Aufl. bearb. von E. A. Ebbinghaus. Tübingen: Niemeyer.

Beyerle, Franz von (Hrsg.)
1936 Gesetze der Burgunden. Wiemar: Böhlau (Germanenrechte. Bd. 10).
1947 Die Gesetze der Langobarden. Wiemar: Böhlau (Germanenrechte. Bd. 3).

Bosworth, Joseph and T. Northcote Toller
1898 An Anglo-Saxon dictionary. Enlarged ed. Oxford: Clarendon Press.
1921 Supplement. Oxford: Clarendon Press.

Eckhardt, Karl August (Hrsg.)
1934 Die Gesetze des Karolingerreiches 714-911. 3 Bde. Weimar: Böhlau (Germanenrechte. Bd. 2).

Ehrismann, Gustav
1932 Geschichte der deutschen Literatur bis zum Ausgang des Mittelalters. Vol. 1. Der althochdeutsche Literatur. 2. Aufl. München: C. H. Beck'sche Verlagsbuchhandlung.

Finnegan, Ruth
1977 Oral poetry, its nature, significance and social context. Cambridge: Cambridge U.P.

Grimm, Jacob
1875-1878 Deutsche Mythologie. 3 Bde. 4. Aufl. Hrsg. von Elard Hugo Meyer. Berlin: F. Dümmler.

Hallberg, Peter
1975 Old Icelandic peotry, Eddic lay and Skaldic verse. Trans. by Paul Schach and Sonja Lindgrenson. Lincoln etc.: University of Nebraska Press.

Hamp, Eric P.
1981 "Notes on the Old English bee charm." *Journal of Indo-European Studies* 9: 338-340.

Hofmann, Carl
1866 "Schlummerlied und Bienensegen". *Sitzungsberichte der königl. bayer. Akademie der Wissenschaften zu München* 2: 103-112.

Jongeboer, Henk
1984 "Der Lorscher Bienensegen und der Ags. Charm *wið ymbe.*" *Amsterdamer Beiträge zur älteren Germanistik* 21: 63-70.

Kemble, John Mitchell
1849 The Saxons in England; a history of the English commonwealth till the period of the Norman conquest. 2 vols. London: Longman etc.

Lehmann, Winfred P.
1971 The development of Germanic verse form. 1956. rpr. New York: Gordian Press.

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Lemaire, Ria
1986 "Vrouwen in de volksliteratuur". In: R. Lemaire (ed.) Ik zing mijn lied voor al die met mij gaat. Utrecht: Hes, 11-41.
Liebermann, Felix (Hrsg.)
1903-1916 Die Gesetze der Angelsachsen. 3 Bde. Halle a. Saale: Niemeyer.
Lord, Albert Bates
1978 The singer of tales. 1960 rpr. New York: Atheneum.
Magoun Jr., Francis P.
1937 "Zu den ae. Zaubersprüchen." *Archiv für das Studium der neueren Sprachen* 92, 171 Bd. (N.S. Bd. 71): 2-35.
Müllenhoff, Karl
1900 "Zur Geschichte der Bienenzucht in Deutschland". *Zeitschrift des Vereins für Volkskunde* 10: 16-26.
Ong, J. Walter
1982 Orality and literacy; the technologizing of the word. London: Methuen.
Pfeiffer, Franz
1866 "Forschung und Kritik auf dem Gebiete des deutschen Alterthums. 2." Sitzungsberichte der kaiserlichen Akademie der Wissenschaften. Philosophisch-Historische Classe. Wien. 52: 3-19; 86.
Salzer, Anselm
1912 Illustrierte Geschichte der deutschen Literatur von den ältesten Zeiten bis zur Gegenwart. Bd. 1. München: Allgemeine Verlags-Gesellschaft.
Schirokauer, Arno
1942 "Der Eingang des Lorscher Bienensegens". *Modern Language Notes* 57: 62-64.
Schnitzer, Paul
1964 Handschriften aus dem Kloster Lorsch. Katalog. Lorsch: s.n.
Schotman, Johan W.
1977 Handboek der moderne bijenteelt. 4e dr. Groningen: Erich Konstapel.
Songeregger, Stefan
1971 "Reflexe gesprochener Sprache in der althochdeutschen Literatur". *Frühmittelalterliche Studien* 5: 176-93.
Spamer, James B.
1978 "The Old English bee charm: an explication". *Journal of Indo-European Studies* 6: 279-294.
Storms, Gotfried
1948 Anglo-Saxon magic. Den Haag: Nijhoff.
Sweet, Henry (ed.)
1975 Anglo-Saxon reader in prose and verse. 15th ed. rev. by Dorothy Whitelock. Oxford: Clarendon Press.
Wohlhaupter, Eugen (Hrsg.)
1936 Gesetze der Westgoten. Weimar: Böhlau (Germanenrechte. Bd. 11).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Zeumer, Karolus (ed.)
1973 Leges Nationvm Germanicarvm. Tomvs I. Leges Visigothorvm. Hannover: Hahnsche Buchhandlung, (Monumenta Germaniae Historica. Leges; 1).

Zupitza, Julius
1878 "Ein verkannter englischer und zwei bisher ungedruckte lateinische Bienensegen". *Anglia* 1: 189-195.

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THE DIVIDED IMAGE: A STUDY OF THE GIANTESSES AND FEMALE TROLLS IN NORSE MYTH AND LITERATURE

LOTTE MOTZ
Hunter College, New York

The author examines the characteristics of giantesses and female trolls in Norse myth and saga, and shows that they used their powers as frequently for the benefit of gods and men as for their destruction. Only in later folklore was their image modified in the memories of man.

In North Germanic mythology giants are traditionally pictured as the unrelenting enemies of the order of the gods.(1) Though giants are always outwitted or defeated in their clashes with the Æsir, they survive to present an evolving threat – gathering strength to deal in the final terrible encounter, Ragnorak – a mortal blow, to the world of gods and men. So vital is the menace of the giants, so powerful is its hold over the imagination of men, that we encounter them not only in the stories of the gods, but also in the tales of human heroes as recorded in sagas, in poetry, and in the narratives of folk tradition.(2) There can be no doubt that the race of giants formed an integral part of the Northern faith, concerning which scholars have advanced various theories. Thus some have argued that they represent the elemental forces of nature, others the powers of death – that the giants represented demons of darkness – while yet others have suggested that they represent the members of an archaic dynasty of gods.(3)

Prominent also in these stories are the female giants. These appear, like their male kin, in the prose and poetry which recount both the divine adventures of the gods and the heroic exploits of mortals, eventually surviving after Christianity in the folktales of the countryside. In this paper I attempt to explore the nature of the giants' wives and daughters as they appear in the Old Icelandic texts. I will describe the giantesses of mythology and their relation to the gods, and also the giantesses of the Sagas and of Heroic Poetry and their position with regard to men.

I. The North Germanic Giantesses

1. Habitation

1.1. In Myth

The giantesses of northern myth do not, on the whole, share

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the dwelling places of the Æsir – for they live in the depth of forests, rocks, or mountain caves – commonly in a place of difficult access. Thus one wise woman of giant origin remembers her childhood home beneath the earth (vsp 2), and when Oðinn sought to visit the giant's daughter Gunnlöð, he had to hew his way through stone and rock (sk 6). Similarly, Hyndla, who possessed and could impart secret knowledge, had to be coaxed to appear from out of her cave dwelling.(4) The bower of Gerðr, the daughter of the giant Gymir, was surrounded by a fence of wood and by a wall of flames, and guarded by a watchman at the entrance; tall gates and a high wall also protect the empire of Hel, the ruler of the underworld.(5)

The daughters of the giant of the sea have their home in the ocean, and Skaði, the daughter of the giant Þiazi, lived in the rocks and crags of *þrumheimr*, the 'world of noise'.(6) Other giant maidens are described as coming from *jötunheimar*, the realm of the giants. This is traditionally envisioned as a wilderness of stone, separated from the dwelling of the Æsir by an icy stream.(7) Another witch-giantess dwells in an 'iron forest' the *járnviðr*.(8) Yet a giantess may sometimes become the wife of a god, and be admitted to the home of the gods.(9)

1.2 In Folklore Saga

The giantesses of the Sagas, often named troll-women, almost always live in caves of rock or ice; less frequently they are described as inhabiting a house in a lonely forest.(10) They are often encountered by a hero on a lone journey in some foreign land, by one who has suffered shipwreck and sought refuge on the shore, like Illugi, or one who may have landed, on a wild coast, his boat still unbroken, as did Hálfdan, later known as the foster son of Brana.(11) Sometimes the hero is engaged on an errand – possibly the search for missing sheep as in *Hrana saga hrings*, or for a precious object, as in *Kjalnesinga saga*.(12) He may stumble upon the dwelling of the giantess on his travels in the remote countryside, or he may follow the giant woman who has come, in friendship or hostility, to his camp.(13)

Doors and locks are often noted at the entrance of the cave, and once we hear of an enormous stone before the gate.(14) The inside may be as beautiful as a king's palace,(15) or it may be only a crude shelter in the rock. Almost always there is

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mention of the glow of fire and of the cauldron in which the family of giants or trolls prepares its meals.(16) Almost always the cave is rich in treasures.(17)

In contrast to the *Eddas*, the Sagas portray giantesses in a specific location which may be mythical, such as *jötunheimar,* or, more frequently, in a real geographical location such as Gandvík – the White Sea – or Dofrafjall in Norway. It would seem likely that giantesses so located had a special significance in local tradition.(18)

2. Relation to Gods and Men

2.1 Relation to Gods

One would assume that in following the tradition of their race, giantesses would be hostile to the ruling gods. And Þórr is praised for having caused the death of many a female troll.(19)

Loki mated with the giantess Angrboða to beget the monstrous Fenris wolf, which was destined to play a fearful role in Ragnorak(20) Gjálp and Greip, daughters of the giant Geirröðr, attempted to harm Þórr,(21) and giant maidens contributed to the destruction of the first golden age of the world.(22) Yet we find few cases in which a giantess harms a god. Indeed, Hyndla, unwillingly gave valuable knowledge to Freyja (*Hyndloliód*), and a wise woman of giant origin shared with Óðinn her knowledge of the birth and the destruction of the world. Gunnlöo, a giant's daughter, offered the precious mead to the leader of the gods, after she had lain with him in love.(23) And the giantess Hyrrokkin helped the Æsir by pushing Baldr's funeral boat, which they were unable to move, far into the sea.(24) Þórr accepted a night's lodging from a giantess, named Gríðr, and received from her a belt of magical strength, a pair of gauntlets, and a stout staff which served him well in his next battle.(25) The mistress of the giant Hymir told Þórr how to gain advantage over her giant lover.(26) Maidens raised in Giantland alone bring happiness to the world of men, according to an Eddic poem.(27)

2.2 Relation to Men

The giantesses and troll-women of the Sagas and of Heroic Poetry are of dual aspect. Many are fierce and cruel, capturing stranded sailors who are then slain, cooked and eaten.(28) The troll-woman Forað of *Ketils saga hængs* is dangerous to those

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who fish at sea, while sheep – and even their shepherds – may fall victims to a giantess, as in *Ármanns saga ok Þorsteins gala.* (29) In an Eddic poem, Fenja and Menja brought misfortune to a king, though only in repayment of his cruelty.(30)

We find, on the other hand, giantesses who offer men friendship, help and even deep devotion. A hero may earn the gratitude and loyalty of a giantess by sparing her life when he had the power to destroy her. Brana, to whom the hero Hálfdan had been merciful, bestowed on him gifts of magical endowment: a coat impenetrable to hostile arms, herbs which turn a woman's mind to love, and a ring which reveals the planned attacks of enemies. She also counseled him regarding his future life, and appeared in a blazing hall to rescue him from death by fire.(31) Gunnarr spared Fála, and she saved his life when he later stood in battle against an entire family of trolls.(32) It may be noteworthy that in her new-found loyalty to a human hero, a giantess may betray and kill members of her family of birth.(33) We may also note that the giantess's protective care may extend into the young man's later life, and that his name may give testimony to his special relation with a troll-woman, as in the case of Hálfdan, the 'Fosterling of Brana', or of Illugi, the 'Fosterling of Gríðr'.

The encounter between hero and giantess may be friendly from the very start: Arinnefja, queen of Giantland, entertained the warrior Egill with porridge and with the story of her life when he came into her cave.(34) Fríðr, the lovely daughter of the giant Dofri, extended to Búi the fullest measure of her hospitality, helping him to success in his dangerous mission: the theft of a precious game from her father.(35) A giantess, riding on a wolf, met Heðinn in a forest, and offered him her help in battle, for she knew that the hero in her cave would soon be dead.(36) The relation of a female troll to a young hero may thus be of three different kinds: of unrelenting hostility, ending in the death of the giantess and the victory of the hero; of initial hostility which turns into lasting friendship; or one of immediate friendliness and love.

3. Family Attachment

3.1 In Myth

The life of giantesses of Northern myth is deeply intertwined, genetically and emotionally, with the life of the Northern gods.

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Bestla is the mother of the god Óðinn, and thus the ancestress of all the gods,(37) while Jöro, as Óðinn's wife, gave birth to Þórr.(38) The giantess Jarnsaxa wedded Þórr and became the mother of Magni,(39) and the giant's daughter Gunnlöð had lain in Óðinn's arms. Gerðr, another giant's daughter, became Freyr's lovely bride.

3.2 In a Human Environment

Just as giantesses appear in the genealogy of the Æsir, they are listed in the lineage of kings.(40) Hljóð is the ancestress of the family of the Völsungs.(41) In the Sagas, as in the myths, a giantess may enter into a love relationship with a human hero, and even bear a child to him. Such a union took place between Örvar-Oddr and Hildigunnr, whose son was Vignir, and between Fríðr and Búi, whose son was Jökull.(42) Certain human heroes are thus descended from giantesses, and Þorgeror Hölgabruðr appears as the daughter of King Helgi of Hálogaland in Snorri's *Edda*, and as the beloved of Jarl Haakon, his descendant, in other sources.(43)

4. Physical Appearance

4.1 Of the Giantesses of Myth

We hear of giantesses of comely as well as of monstrous appearance. The mother of the giant Hymir is endowed with nine hundred heads, while the giantess Nott is described as black, 'according to the race from which she came'. Hymir's mistress, on the other hand, is 'golden' and 'white-browed';(44) Skaoi is the 'shining bride of the gods',(45) and Gerðr's beauty aroused in Freyr, when he beheld her, an agony of longing and of love (*Fǫr Scírnis*).

4.2 In Saga

Some of the troll-women of the Sagas are fair, such as Dofri's daughter; Brana, whom, we are told, was 'in human form'(46) and Geirnefja, who was 'tall but handsome.'(47) We may furthermore assume that the young giantesses who slept with human heroes were attractive to their lovers. Many female trolls of the Sagas, on the other hand, are described in their full loathsomeness.(48) Traditional features are long lips, hanging to their chests, the blackness of their flesh, their beaked noses and their clawlike hands. Margerðr of *Hjalmþes saga ok Ölvis* is

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hunchbacked and in possession of only a single eye. The usual attire of these creatures is a shirt or smock of fur, long in front and so short in back that it leaves the buttocks bare. Saga trolls thus exhibit grotesque ugliness rather than monstrosity. Though basically human, their features are evocative of the shapes of beasts, the fur smocks are reminiscent of the mammals of the forest, and the long claws and beaklike noses resemble birds of prey. Margerðr even has a nose and claws of 'iron.'(49)

5. Talents and Functions

5.1 In Myth

Skaði of Eddic poetry and prose is a huntress, for she ranges through the northern woodland on her snow-shoes to pursue her prey;(50) she also appeared as a warrior who came in armor to the dwelling of the Æsir to avenge her father's death (sk 3). Nine maidens of the giants' race had the generative power to bring forth Heimdalr, though they had no traffic with a man (hyn 35); another giantess, whose husband or lover is not named, gave birth to wolves within a forest.(51) The giantess Hyrrokkin showed herself to possess greater bodily strength than the gods, when she pushed Baldr's boat into the sea. She alone, moreover, had the power to bridle her riding steed, a wolf, which four of Óðinn's warriors were unable to subdue.(52)

The giantesses Gunnlöd and Griðr were rich in property which they would generously give to friends, for as we have mentioned Bunnlöd offered the sacred drink to Óðinn, and Griðr gave iron gloves and a belt of strength to Þórr. Both the god Óðinn and the goddess Freyja sought wisdom and information from a giantess (vsp 2; hyn). We thus meet the giantess of myth as a huntress and as a warrior, as mistress of a ferine beast, and as endowed with strength, with generative power, with wisdom, and with generosity.

5.2 In Saga

The troll-women of the Sagas are sometimes portrayed as guarding sheep and goats.(53) Others gain their livelihood in plundering stranded sailors, and a giantess's cave may be rich with the gold and silver of her booty.(54) Some giantesses, like Friðr, lead the lives of princesses in the palaces of their fathers.(55)

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The giantesses of the sagas are also often protrayed as generous with gifts of their gold and silver; and they also give gifts of magical endowment, such as gloves which bring indefatigable strength or a coat which cannot be pierced by arms.(56) They themselves possess superhuman talents, and are able to miraculously restore a wounded or disabled men to health. Some, like Hetta of *Bárðar saga Snæ fellsáss*, have the powers to assume a different shape.(57)

Troll-women are also endowed with strength of body and great skill at arms in the wielding of clubs, swords, knives, and battle-axes.(58) They participate actively in hostile encounters, grappling with their foes in defense or in attack, and giantesses are often fiercer and more threatening than male giants.(59) In keeping with her martial skills, a giantess may offer her help in combat to a human hero, as in *Helgaqviða Hiǫrvarðzsonar* (35). One Troll-woman rides on a wolf, to whom she feeds the bodies of dead warriors.(60) The giantess Þrogerðr Hölgabrúðr is reported to have decided the outcome of a battle by 'shooting arrows from her fingers'.(61)

The giant sisters, Menja and Fenja, possess many of the qualities here noted; their superior strength enabled them to work a quern which could grind either peace and prosperity or war and death. Before their captivity they had been instrumental in deciding the fate of warriors in battle, supporting some and tumbling others, and had helped to shape the landscape, moving stones to create mountains and valleys. They also possessed the ability to foretell the future.(62)

Saga-giantesses frequently test the courage, skill and resolve of heroes, just as Gríðr of *Illuga saga Gríðarfóstra* tried to frighten Illugi, probing in this way the measure of his courage.(63) The hideous Vargeisa of *Hjálmþés saga ok Olvis* demanded of a warrior that he kiss her, and, on the fullfilment of this demand, she handed a sword to the young Viking. The hero's successful passing of such tests frequently has the power in European fairy-tales to effect the lifting of an evil spell.(64)

The troll-women of the Sagas thus resemble the giantesses of myth in their ownership of treasures, their generosity, their strength and wisdom, and their skill in handling arms.

6. Relation to the Natural Environment

6.1 In Myth

The powers of giantesses may appear in interaction with, and

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even in personification of, the natural surroundings. Thus the daughters of Æsir represent the ocean waves;(65) the name of the giantess Jörð means 'earth', and that of Nótt means 'night'. The giant's daughter Gjálp raised the level of a river with her urine.(66)

6.2 In the Sagas

Menja and Fenja took part in the creation of the landscape, and they also ground the salt which seasons the oceans. Troll-women of the Sagas appear, almost always, in close attachment to a specific place in the natural environment, the close relation sometimes being reflected in their names. Geirríðr is thus known as Gandvíkrekkja – 'the witch(?) of the White Sea' – and Hít is situated in Hítardalr – the 'Dale of Hít'. We may understand that, rather than being personifications of cosmic features, the Saga-giantesses may represent the 'daimons' of specific localities. Giantesses are closely linked with the strength and terror of the elements, and with storms and frost and drifts of snow, over which they sometimes have control. Some of their names are equivalent to terms for 'snow', i.e., Mjöll, Drífa, Fönn. Their garments, cut from fur rather than made from woven matter, point to an archaic way of life.

7. Relation to Animals

7.1 In Myth

Wolves are the beasts most frequently associated with giantesses. Hyrrokkin and Hyndla are portrayed as riding on wolves. The 'Old One' of the 'Iron Forest' gave birth to wolves. The imagery of skaldic poets underlines the close relation by defining the wolf as 'the riding steed of the troll-woman'.(67)

7.2 In the Sagas

Like her sisters in mythology, the troll-woman of the lay of Helgi Hjörvarðsson rides a wolf through the forest; and a wolf serves the troll-woman who is the leader of an army. In the Sagas the trolls deal frequently with sheep and goats and their affinity with animals is indicated by their appearance. Vargeisa of *Hjálmþés saga ok Olvis* is portrayed with a horse's hooves, mane, and tail; Hrímgerdr of *Helgaqviða Hjǫrvarðzsonar* who approaches the warrior Atli, has a horse's tail; Forao rushes through the sea in the shape of a whale (*Ketils saga hængs*).(68)

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The fur garments commonly worn by troll-women also relate them to woodland beasts, and the giantess Skjaldvör is covered with a shaggy hide (*Þorsteins saga uxafóts,* ch. 10). The beaklike nose and long claws so frequently attributed to female trolls, recall the features of a bird of prey, and we read of the transformation of one giantess into a cow, and of others into carrion birds.(69)

8. Relation to Love

8.1 In Myth

The giantesses of myth may be virginal; Gerðr needed to be subjugated by a curse before she would give herself in marriage. Virginal also are the nine giant maids who gave birth to Heimdalr. We do not hear of husbands or lovers in respect of the giantesses of the ocean waves or for those who ended the first Golden Age. Yet giantesses are sought for and encountered in erotic alliances, as are Gunnlöð, Gerðr, Skaði, and Hymir's mistress.

8.2 In the Sagas

Giantesses are frequently eager and erotically aggressive in their relationship with men. Hrímgerðr desired the sexual attentions of the hero Atli (HHJ 12-30), and Vargeisa demanded a kiss from Hjálmþér when he met her on an island (ch. 10). The friendly young giant-women of the Sagas readily embrace young warriors. They are often described as being physically attractive, and Þorsteinn assured his giant-mistress in a poem that he would love her till he died.(70)

9. Relation to Frost, Cold and the Northern Climate

9.1 In the Myths

Skaði is pictured in a wintry landscape as she glides on snowshoes through the forest, and she is designated as the 'Snowshoe Goddess' (gyl 12). Gunnlöð is one of a family of Frost Giants (hav 30). The dwelling place of Hymir's mistress lies in so cold a country that Hymir's beard is frozen solid when he returns to his cave after a day's hunting (hym 10).

9.2 In the Sagas

The habitation of a giantess is often located in a landscape of

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snow and ice, and is found only after the hero has made his way over glaciers.(71) The house of Skjalðgerðr's family in the *Heiðarskógr,* is reached on skis by King Óláf's men;(72) intense cold is experienced by Illugi before his encounter with a giantess.(73) A change of weather, a turning of the temperature to frost and cold, or a fall of snow may precede the meeting.(74) Þorgeror Hölgabruðr sent a hailstorm to protect her friend in battle.(75)

The realm of giants, *jötunheimar*, is situated in a northern part of Norway, but giantesses are also met in arctic lands, such as Lapland, Greenland, or Permland on the northern shore of Russia.(76) Giantesses appear, moreover, to be especially active in midwinter, and are often associated with the midwinter feast of Yule. Hít of Hítardalr arranged a Yule-tide gathering for her friends;(77) Búi met the comely Fríðr on the eve of Yule,(78) and at Christmas time a giant-woman entered a farmer's hall to carry off a member of the household.(79) It was at Yule-time also, that a troll-woman offered to protect the warrior Heðinn in his battles.

10. The Powers of Giantesses

10.1 In Myth

Giantesses here are always portrayed as powerful, whether as allies or as destructive enemies. Young giantesses are able to end the first Golden Age of peace. One giantess is able to bestow a magical life-saving gift upon a god, and another allows a god to glimpse the future. It is a giantess who rules the realm of the dead.(80) In this respect the giantesses differ greatly from the goddesses of the northern pantheon, for the latter are depicted as feeble and ineffective — as consorts, above all, to the valiant gods.(81) We know of worship rendered to at least one giantess, for Skaði makes mention of her sanctuaries.(82)

10.2 In the Sagas

The sagas contain indications of cultic honors extended to a giantess named Góa, to whom the *goíblot* or sacrifice was offered in the wintermonth named after her.(83)

It has recently been argued that the ritual of Völsi was offered to Skaði.(84) Snorri speaks of the worship of Helgi and of his daughter Þorgerðr Hölgabruðr. According to other sources this giantess shared a temple with Þórr, and received a

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human sacrifice from Jarl Haakon so that she might grant him victory in battle.(85)

11. The Composite Image

11.1 In Myth

The giantess of myth may be monstrous, but is more often shown as beautiful; she is able to bring forth life from within herself and to impart wisdom; she is generous in giving; sometimes menacing, but more often helpful. She can become entwined, through love or family relation, with the dynasty of the ruling gods. Armed for hunt or war, and in control of a ferine beast, she belongs to the wilderness of rock and ice, to the realm beneath the earth, or to the waters of the ocean.

11.2 In the Sagas

In comparison with the giantesses of myth, those of the sagas are more frequently portrayed as hideous, more frequently pictured as hostile or aggressive. Their wisdom lies in magical manipulation rather than in knowledge of the nature of the cosmos, and they are often lustful and eager for masculine human companionship and may enter into a lasting friendship with a human hero. They do not personify the natural environment, but living always in the uncultivated wilderness they appear in close attachment to specific places, often having some power over the elements. Their closeness to the world of beasts is indicated through their appearance, and they may at times turn into animals. In sagas they are sometimes reported as being engaged (as their counterparts in myth are) with the tending of flocks or the plundering of human settlements, which is never the case in the myths.

In both traditions giantesses possess a divided image: of foe and friend, of beauty and hideousness, and of age and youth. In both they wield arms and belong with the frost and ice of northern lands, and with uncultivated wetlands and wild beasts. In both the myths and sagas, giantesses often are desirable and able to arouse and assauge erotic longings. These emotions are usually directed towards men – either as friends or lovers. In both traditions they are prophetic and generous in giving. The imagery of skaldic poets concentrates on two aspects of the spirits: their employment of the wolf as a riding-steed, and their relationship to weapons.(86)

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It is my opinion that we must reconsider the traditional view which sees giantesses and female trolls customarily as demons and ogres – as the ferocious enemies of gods and men. The power wielded by giantesses was employed as frequently for the benefit of gods and men as for their destruction – even though the race of which they are a part often stands in conflict with the ruling gods. This is the impression that we gain from a survey of the myths and sagas, even though in later folklore their image may have been somewhat modified in the memories of man, over whose minds they maintained a strong hold, follows right down to the nineteenth and even early twentieth centuries.

FOOTNOTES

(1) The names are in Old Icelandic *jötunn, þurs, risi,* masculine nouns, *troll,* neuter, and the feminine nouns, *gýgr, skessa, flagð*. The women of the race are frequently designated as the giants' wives or daughters, or as troll-women.

(2) Mythical information comes to us mainly from the Eddic poems which deal with the adventures of the gods and from the *Prose Edda* of Snorri Sturluson. We learn about human heroes from the 'heroic' poems of the *Eddas*. Episodes in which human heroes meet and deal with the supernatural occur also in the 'Heroic Sagas' – *Fornaldar Sögur* – and also in the more realistic 'Sagas of the Icelanders' – *Islendinga Sögur* – and also the 'Chivalric Sagas' – *Riddara Sögur*. The following editions were used: *Edda, die Lieder des Codex Regius nebst verwandten Denkmälern,* Gustav Neckel – Hans Kuhn, ed. (Heidelberg, 1962); *Edda Snorra Sturlusonar,* Finnur Jónsson, ed. (Reykjavik, 1931); *Fornaldar Sögur Norourlanda,* Guðni Jónsson, ed. (Reykjavik, 1959); *Íslendinga Sögur*, Guoni Jonsson, ed. (Reykjavik, 1953). A systematic presentation of the tales of giants of folk-tradition was compiled by John R. Broderius, *The Giant in Germanic Tradition* (Dissertation, University of Chicago, 1933).

(3) That giants are demons of nature was assumed by Eugen Mogk, *Mythologie*, in Pauls Grundriss, vol. 3 (1891); that they are the forces of death is believed by E. O. G. Turville Petre, *Myth and Religion of the North* (London, 1964), p. 80; that they might have been an older race of gods is assumed by Jacob Grimm, *Teutonic Mythology* James Steven Stalybrass, transl. fourth ed. first published 1883), vol. 2, p. 530; in recent time Marlene Ciklamini treated the subject in a careful and systematic manner, *The Giants in Germanic Mythology* (Dissertation, Yale, 1961).

(4) hyn.

(5) fs; gyl 20.

(6) gyl 12.

(7) vsp; the river between the two realms is named Ifing in vaf 16, and Elivágar in hym 5.

(8) gyl 6; vsp 40.

(9) Skaði married Njörðr, and is seen in the hall of the AEsir, 1s; Gerðr married Freyr and partakes of the drinking feasts of the gods, sk 1.

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(10) We find instances, though rarely, of troll-women marrying into human society and causing harm. Such a case was that of Grímhildr of *Gríms saga loðinkinna* f 2, ch 2, and another that of *Illuga saga Gríðarfóstra*, f 3, ch. 5, who had seven daughters, all true trolls. In both cases the woman placed an evil spell on her human stepchildren. Blóta, the sister of a giantess, worked as a servant in the court of a king, *Ála Flekks saga*, r 5, ch. 4.

(11) Illugi is the hero of *Illuga saga Tagldarbana*, is 3, ch. 8; shipwreck precipitated a meeting with trolls also in *Ásmundar saga Atlasonar*, is 4, ch. 4, *Jökuls þáttr Búasonar, is 12, chs. 1, 2, Ketils saga hœhgs,* f 2, ch. 3, *Þorsteins saga Víkingssonar,* f 3, ch. 19; storm, darkness, or mist occasioned the landing of the Vikings or preceded the meeting with the troll in *Hálfdanar saga Brönufóstra*, f 4, ch. 6, *Illuga saga Griðarfóstra,* f 3, ch. 3, *Gríms saga loðinkinna*, f 2, ch. 1, *Gunnars saga Keldugnúpsfífls,* is 10, ch. 6, *Sörla saga sterka*, f 3, ch. 2.

(12) Search for sheep taken by trolls leads to meeting them also in *Ármanns saga ok Þorsteins gála*, is 12, and in *Bárðar saga Snæfellsáss,* is 3, ch. 8; in *Kjalnesinga saga,* is 12, ch. 12, Búi hs been sent by King Harald to obtain a board game kept by the giant Dofri; in *Sturlaugs saga starfsama,* f 3, the heroes have to find the horn of an aurochs.

(13) A troll-woman comes to Þorsteinn of *Þorsteins saga Víkingssonar,* f 3, ch. 19, as his boats are lost and he is close to drowning in the sea; and she offers to restore him to life. Geirnefja of *Þorsteins saga Geirnefjufóstra*, is 8, ch. 5, rows in a 'stone boat' to the stricken hero and takes him to the healing safety of her home. A group of female trolls reaches with hostile intent the boats of the Vikings in *Hjálmþés saga ok Olvis*, f 4, ch. 12, for they wish to break the vessels and carry off the sailors who later will be eaten. In *Gríms saga loðinkinna*, f 2, ch. 1, two giantesses have come to wreck the boat while the men are sleeping, and one is pursued and followed by the hero into her cave.

(14) The rock lies before the entrance to the cave of the giant Brúsi of *Orms þáttr Stórólfssonar*, is 11, ch. 8.

(15) As in the case of Dofri of *kjalnesinga saga* (is 12) who is, in fact, designated as 'king'.

(16) Frequently the flesh of stranded sailors sizzles in the pot, as in *Hálfdarnar saga Brönufóstra,* f 4, ch. 1; but Arinnefja has a mess of porridge from which she fed her guests.

(17) The treasure is often that which was taken from shipwrecked men. The hero is always successful in his meeting with the troll-woman,, and either by killing her or by winning her friendship much of the treasure becomes his.Where the meeting was friendly from the beginning, he receives precious gifts on departure. We may note that the hero is always richer after his encounter with a giantess.

(18) We thus meet giantesses in the Polar lands – Brana, Hrímgerðr, Sleggja; in Greenland – Gnípa, Geit, Syrpa, Glámdís, Hergeðr; in Finmark – Hrafnhildr, Hildigunnr; on the shores of the White Sea – Tögld, Geirríðr, Gríðr; in Dofrafjall – Gandeiðr, Fríðr, Flaumgerðr; in Hálogaland – Guðrún, Þordís, Eimyrja, Eisa, Glöð; in Sauoey – Menglöð; in Ireland – Mella; in Africa – Mána; in Vermaland of Sweden – Skrámgeror; and in various areas of Iceland such as Hítardalr – Hít, Hrútafjarðardalr – Skrukka, Jórukleif – Jóra, Helguhellir – Helga, Ennisfjall – Hetta, and in a cave nor far from Ármannsfell – Flanka, Flórsokka, and Flannhildr.

It is true, however, that in rare cases, as in *Hjálmþés saga ok Olvis,* a family of trolls cannot be placed into a named and known region.

(19) He is extolled by poets as killer of Leikn, Gjálp, Greip, Hyrrokkin, Hengiankapta, Kjallandi, Keila, Svivör, sk 12.

(20) gyl 19.

(21) sk 27.

(22) vsp 8.

(23) sk 6.

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(24) gyl 33.
(25) sk 27.
(26) The giant challenged Þórr to break a certain chalice; the giant's mistress counseled the god to hurl the cup against Hymir's head, for it alone is of stronger *substance, hym.*
(27) vaf 29.
(28) Two troll-women thus meet Gunnarr in the wilderness and wish to take him and the bear he shot to their cave (*Gunnars safa Keldúgnupsfífls*, is 10, ch. 6).
(29) The troll-women who had stolen the sheep were three sisters, Flanka, Flannhildr, and Flórsokka.
(30) The king had forced the girls to work the gigantic stones of a mill; the maidens ground at first gold and prosperity; when their master refused them time for rest they began to grind armies to defeat the king (grot).
(31) *Hálfdanar saga Brönufóstra*, f 4; of unestimable help also is the action of Geirnefna who took a hero on the point of death into her 'earthen house', to restore his health (*Þorsteins saga Geirnefjufóstra*, is 8).
(32) *Gunnars saga Keldugnúpsfífls*, (is 10, chs. 6, 7).
(33) Þjóstólfr of *Þjóstólfs saga hamramma* (is, 8) spared a troll-woman's life; she led him into her cave while her brothers were sleeping and brought the hero the special weapon which alone could kill her father (chs. 4, 5). Hírmgerðr fought on Illugi's side against her own brothers because the hero had shown mercy towards her (*Illuga saga Tagldarbana*, ch. 9, 10); Brana also experienced generosity from Hálfdan and later killed her father with her own hands (ch. 7).
(34) *Egils saga einhenda*, f 3, chs. 12, 13.
(35) *Kjalnesinga saga* is 12, ch. 13; Menglöð also came in friendship to Ormr Stórólfssonr, *Orms þáttr Stórólfssonar*, is, 11, ch. 8.
(36) HHJ, prose passage and stanza 35.
(37) gyl 5.
(38) gyl 6.
(39) sk 25.
(40) The lineage of the ruling houses of Norway is traced to Fornjotr, whose name appears in Snorri's list of giant names, according to *Hversu Noregr byggðist,* f 2; among the giantesses names are Góa, Fönn, Drífa, Mjöll, Bergdís.
(41) *Völsunga saga,* f 1, ch. 2.
(42) *Orvar-Odds saga,* f 2, ch. 18; *Kjalnesinga saga,* is 12, ch. 18; Grettir of *Grettis saga* dallied with Þórir's daughters (is 6, ch. 61); Þorstinn had a child with Geirnefja (*Þorsteins saga Geirnefjufóstra*, is 8, ch. 5); Ketill stayed with Hrafnhildr and their son was Grímr (*Kelils saga hængs*, f 2, ch. 3); Hálfdan had a child with Brana (*Hálfdanar saga Brönufóstra*, f 4, ch. 8). In the following instances the giantess embraced by the hero is in fact an enchanted human girl: Skellinefja loved by Þorsteinn, (*Þorsteins saga Víkingssonar*, f 3, ch. 19), Geirríðr Gandvíkrekkja loved by Grímr (*Gríms saga loðinkinna*, f 2, ch. 2); Hildr loved by Illugi (*Illuga saga Gríðarfóstra*, f 3, ch. 4); Vargeisa kissed by Hjálmþér (*Hjálmþsés saga ok Ólvis*, f 4, ch. 10). Giantesses often become a protective fostering force towards their human lovers, and some heroes are designated as the fosterling of their giant-mistress, such as: Illugi, fosterson of Gríðr, Hálfdan, fosterson of Brana, and Þorsteinn, fosterson of Geirnefja.
(43) sk 56; *Óláfs saga Tryggvasonar (Heimskringla)*, ch. 43; also *Flateyarbók* 1, 257 ff., as quoted by Nora Chadwick, "Þorgerðr Hölgabrúðr and the Trolla-þing", *The early Cultures of North-Western Europe*, Cyril Fox, ed (Cambridge, 1950), pp. 397-417, pp. 399-400.
(44) hym 8.
(45) grim 11.
(46) *Hálfdanar saga Brönufóstra,* f 4, ch. 6.
(47) *Þorsteins saga Geirnefjufóstra,* is 8, ch. 5; Fríðr is described, as would be a human princess, in beauty and costly attire (*Kjalnesinga saga*, is 12, ch. 13; Menglöð

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of *Orms þáttr Stórólfssonar*, is well proportioned (is 11, ch. 8).

(48) Among the hideous are Gríðr of *Illuga saga Gríðarfóstra,* Gnípa and Geit of *Jökuls þáttr Búasonar,* Skellinefja of *Þorsteins saga Víkingssonar*; exceedingly loathsome is Margeor of *Hjálmþés saga ok Olvis* who is hunchbacked and one-eyed. Skinnefja of *Egils saga einhenda* is wider than she is tall (f 3, ch. 5).

(49) A troll-woman of *Þorsteins saga úxafóts* herself is furred like a beast (is 10. ch. 9); the mother of the giant Brúsi is a cat (*Orms þáttr Stórólfssonar*, is 11, ch. 8); Forað of *Ketils saga hængs* changes into a whale (f 2, ch. 5); Geirríðr has the claws of a vulture (*Gríms saga loðinkinna*, f 2, ch. 2); Vargeisa has the hooves, mane and tail of a horse (*Hjálmþés daga ok Ólvis* f 4, ch. 10); a tail belong also to Hrímgeðr (HHJ 20).

(50) gyl 12.

(51) vsp 40.

(52) gyl 33.

(53) Arinnefja of *Egils saga einhenda* owns fifty goats which she milks like cows (f 3, ch. 5); her daughter drives the flocks to their pasture; Flanka, Flannhildr, and Florsókka of *Ármanns saga ok Þorsteins gála*, (is 12), are also owners and guardians of sheep and goats.

(54) Mána of *Sörla saga sterka* had stayed in the same cave with her husband for forty years, eating stranded sailors and keeping their gold (f 3, ch. 4); the same occupation is followed by Fála and Gála of *Gunnars saga Keldugnúpsfífls* (is 10, ch. 6).

(55) While giantesses may be responsible for the snow and storms which drive a vessel against the rocks the troll-women of *Sturlaugs saga starfsama* (f 3, ch. 16) send their friends good sailing winds.

(56) The generosity of a giantess is expressed in her rich parting gifts. Brana gave her lover not only objects which protected him through life, but also a well-fitted boat which she herself had built in the course of winter. Geirnefja sent her lover off with boats and weapons. Rich and precious gifts were handed by Giror to Illugi.

(57) Skinnhúfa of *Hjálmþés saga* (f 4, ch. 16), can change men into birds; Skinnhetta of *Ármanns saga inn fyrri* (is 12, ch. 13), is a witch, *full forneskju ok fláttskapar* – 'full of wizardry and tricks'.

(58) Mána of *Sörla saga sterka* wields a sword – *skalm* (f 3, ch. 3); the same kind of weapon is used by Skjalddís of *Þorsteins saga úxafóts*, (is 10, ch. 10); Mella of *Illuga saga Tagloarbana* employs a spiked club – *gaddakylfa* (ch. 15); and Hornnefja of *Sturlaugs saga starfsama* holds a spear; Brana kills her father with a sword – *sax*; a kind of sword – ~~*priumr*~~ – belongs also to Fála of *Gunnars saga Keldugnúpsfífls*, (ch. 7).

(59) As in the case of Mána and her husband Skrímnir, *Sörla saga sterka*, f 3, ch. 3; Sleggja of *Hálfdanar saga Brönufóstra,* put up a fiercer battle than her husband Járnnefr (ch. 4); or a giant may send his daughter to bring the men to his cave, as in *Hjálmþés saga ok Ölvis*, f 4, ch. 9.

(60) *Saga of Harald Sigurtharson (Heimskringla),* Lee M. Hollander, transl. (Austin, 1964), chs. 80, 81).

(61) *Búadrápa* of Þorkell Gíslason, quoted by Chadwick, ref. 43, p. 401.

(62) got 1, there they are called *framvísar* – 'prophetic'; 11, ". . . mighty works we maidens wrought, we moved all alone the mountains and rocks."

(63) Skinnhetta of *Ármanns saga inn fyrri* imposed seemingly impossible tasks upon the hero; upon achieving them he gained a princess in marriage (is 12, chs. 13, 14, 15); Grímr's willingness to keep his promise of sleeping with the hag who had saved his life was tested by Geirríðr, *Gríms aga loðinkinna,* f 2, ch. 2; and a similar test was passed by Þorsteinn of *Þorsteins saga Víkinssonar*, f 3, ch. 19.

(64) The Irish hero Lugaid, the son of King Doire Doimthech, had the courage to embrace a hideous woman who became a beauty upon his action and conferred

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on him the kingship over Ireland, as cited by Jan de Vries, *Keltische Religion* (Stuttgart, 1961), p. 242.

(65) sk 34.

(66) sk 27.

(67) The wolf may thus be called 'Steed of Járnsaxa' – *Járnsöxu faxi (skj 45, 3, 4) or 'Ho*rse of Leikn' – *Leiknar hestr* (skj 149, 6, 3).

(68) f w, ch. 5.

(69) The daughter of the giant Hrímnir transforms herself into a crow (*Völsunga saga,* f 1, ch. 2); Skinnhúfa and Vargeisa, transformed into cultures, help the heroes kill a whale; their claws and beaks are of iron (*Hjálmþes saga,* f 4, ch. 20).

(70) *Þorsteins saga Geirnefjufóstra,* is 8, ch. 5. Giantesses are sometimes sexually aggressive. Arinnefja of *Egils saga einhenda* suffers from inordinate desire for sexual satisfaction ever since she shared Þórr's bed (f 3, ch. 12). When the trolls Geit and Gnípa meet with Jökull they decide that he should marry one of them or die *Jökuls þáttr Búasonar*, is 12, ch. 1); Hrímgerðr of *Helgaquiða* Hiorvarðzsonar ties to entice a human hero into her embrace. Ýma wishes to test the manhood of Hjálmþér *Hjalmþes saga*, f 4, ch. 12); Geirriðr wants to sleep with Grímr *Gríms saga loðinkinna*, f 2, ch. 2), just as Skellinefja wants to sleep with Þorsteinn *Þorsteins saga Víkingssonar,* f 3, ch. 19).

(71) As in *Hálfdanar saga Brönufóstra,* f 4, chp. 6.

(72) *Þorsteins saga úxafóts,* is 10, ch. 10.

(73) *Illuga saga Gríðarfóstra*, f 3, ch. 3.

(74) Snow began to fall just before troll-women arrived near Grímr's boat (*Gríms saga loðinkinna*, f 2, ch. 1); Þorisdalr, the realm of the giant Þorir and his daughters, lies amidst glaciers (*Grettis saga*, is 6, ch. 6); icy mists shroud the troll's cave in *Hrana saga hrings*), is 9, ch. 8); Jökull experiences intense cold just before he meets some trolls (*Jökuls þáttr Búasonar*, is 12, ch. 1); Illugi comes upon a snow covered rock just before he encounters Vagnhöfoi, the servant of the giantess Tögld (*Illuga saga Tagldarbana*, is 3, ch. 4).

(75) *Jomsvikínga drápa* 30-32, cited by Chadwick, ref. 43, p. 401.

(76) Reference 18 shows that the Polar lands, Greenland, Finnmark (Lapland), the northern parts of Norway recur among the dwelling places of giants and of giantesses. Only Mána of *Sörla saga* lives in a southern region. Trolls are so clearly stationed in the North that the Polar Bay is known as Tröllа-vatn, 'the Sea of Trolls'.

(77) *Bárðar saga Snæfellsáss*, is 3, ch. 13; Gnípa invited Jökull to come with her to a Yule feast of her friends (*Jökuls þattr Búasonar*, is 12, ch. 3).

(78) *Kjalnesinga saga*, is 12, ch. 13.

(79) *Þjóstólfs saga hamramma,* is 8, ch. 16; at the same time of the year a troll woman siezes members of the household (*Grettis saga*, is 6, ch. 65).

(80) This is Hel, daughter of the giantess Angrboða and of Loki.

(81) See my "Sister in the Cave", *Arkiv för nordisk filologi* 95, (1980), pp. 168-182.

(82) *Locasenna* 51.

(83) *Hversu Noregr byggðist*, f 2, ch. 1.

(84) Gro Steinsland – Karl Vogt, "Aukinn ertu Uolse ok vpp tekinn", *Arkiv för nordisk filologi* 96 (1981), pp. 87-106.

(85) *Jomsvikínga drápa,* quoted by Chadwick, ref. 43, p. 401.

(86) As ref. 67; battle axes are named with troll-women's names, such as *brynju Hveðra* – 'the Hveðra of the coat of mail' (skj 3, 11, 2), or *hjálma Gríðr* 'the Gríðr of the helmets' (skj II, 231, 3, 4).

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BOOK REVIEW ARTICLE

SOCIAL ENGINEERING IN INDIA AND CHINA: CONTRASTING APPROACHES TO BIRTH CONTROL

ALAN MCGREGOR
Institute for the Study of Man

THE LAND IS SHRINKING
POPULATION PLANNING IN ASIA
Gayl D. Ness and Hirofumi Ando
The Johns Hopkins University Press, Baltimore and London

Authors Ness and Ando concentrate on the oft-mentioned subject of the contemporary world population explosion. This topic is generally discussed as though there was a uniform explosion of the entire world population, whereas what is taking place is in many ways far more significant, and potentially far more disruptive than that. Present reproductive rates are by no means equal between the world's major regions, and even less so between the world's major races. Generally, the white regions are failing to reproduce themselves, and even within these formerly white lands (which have become racially mixed as a result of low immigration controls since World War II) it is the immigrants of Asian, African and Latin American origin who are producing the larger numbers of offspring. The migratory pressures from the poorer and overpopulated areas upon even the marginally more prosperous countries are likely to continue to escalate, and such dramatic changes make for future tensions. The population explosion, which is taking place primarily amongst the indigenous peoples of the tropical and semi-tropical territories, is the main threat to world prosperity and world peace that we can perceive today.

Quite understandably, because reproduction is one of the most intimate of personal activities, attempts to interfere with the process can be fraught with political danger. Overpopulation and the consequent struggle between rival gene pools is an essential part of the evolutionary process. Men and women are biological organisms, shaped by the causal forces of evolution – like all other living organisms. Evolution works in a natural environment (i.e. one which has not been substantially modified

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by man with the aid of advanced technology) to ensure fitness by over-reproduction. This means inevitably that more offspring are produced than will survive to an age at which they can reproduce, or that if they so survive they will fail to produce offspring. The reproductively more competitive thus reproduce at the expense of the less competitive. But what does this mean? Normally it would indicate that those which reproduced effectively were the more competent, the more intelligent perhaps, who belonged to that element within the population which had the physical and mental qualities which would facilitate survival. But in the case of human populations, culture takes a hand. Human reproductive success is dependent, to no small degree, upon the possession of a culture that favors fertility. In the West, the contemporary cultural environment no longer favors the production of numerous offspring, except in the case of diverse minority ethnic groups. This is particularly the case among those sections of the population which are in higher income groups, and which may therefore be presumed to be of generally average or above average intellectual ability. Contemporary Western culture is dooming those who live in the West to possible extinction, or at least to a decline in numbers. Only those peoples from the Third World who have recently immigrated to the West, and have managed to retain non-Western attitudes towards reproduction, escape this cultural guillotine.

Dealing with the problem of the Third World population explosion, the authors of *The Land is Shrinking* have chosen to concentrate their attention primarily upon India and China — the world's two most populous countries — because these countries have more in common than their size: "Similarities in both demographic and sociopolitical histories have placed these two countries together in the vanguard of the current political-ecological adjustment."

For fifteen centuries, India and China retained a roughly stable population, a primarily agricultural population, unaided by chemical and industrial technology, which lived in ecological balance with the indigeneous flora and fauna. But more recently Western technology and Western medical science and the World Health Organization have radically upset that balance.

> ...The (population) curves for India and China today lead one to expect for them as well a dramatic form of ecological adjustment . . . . If demographic histories lead to the expectation of a major ecological change, recent

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history leads to the expectation that this will be a political-ecological change . . . For both, the problems were compounded by rapid population growth. In both countries powerful nationalist movements arose to confront the two problems and thereby to gain for their peoples independence and dignity together with increased human productivity and welfare. And in both cases nationalist movements led to new forms of political organization, to the formation of new goals of national economic development, and thence to the adoption of official antinatalist policies and the creation of nationwide fertility limitation programs. In effect, these two massive and massively poor countries are now experiencing roughly similar political-ecological adjustments to high fertility and population growth.

If the similarities in the political-ecological changes are striking, the differences are more illuminating. It is well known that the two countries are taking different paths to the modern world, paths that especially entail the use of different forms of political organization. China has chosen a deliberately strong form of political organization, India a deliberately weak one.

While India's attempt at birth control has been essentially a failure, China's more draconian program, operating within a culture which for three millennia has promoted obedience to the state, may have been more effective. It is this portion of the author's work that we find to be the most enlightening.

The Beijing government determined on a formula for family planning and set up an organic administrative procedure to ensure that the program was effectively enforced, year in and year out, and that compliance though theoretically voluntary was in fact required by constant vigiliance on the part of the authorities, who scrutinized the reproductive behavior of every couple. In China:

> . . . community planning begins with the organization of all married and reproductive couples, plus those who plan to marry in time to be considered reproductive for the coming year. The community plan follows the pattern captured by the slogan "individual proposal and peer review," which is also used for other individual actions relevant for the entire group, such as setting work points for various tasks.

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> Thus, individuals submit their own birth plans to the group for approval. They are to be guided by the three birth norms: late marriage, spacing of four years, and stopping at one or two children. Frequently the target for births is less than the number of eligible couples who wish to have a child. In this case the group decides on the allocation of birth targets.

Few variations from official communist guidelines are permitted in this Orwellian world, and then only with official approval:

> . . . Adjustments can also be made by trading quotas between couples, using the quota of a couple who has been unable to conceive for a couple that accidentally conceived. But the peer structure of community birth planning is not only useful for making these positive adjustments, it is also used to reinforce group acceptance of the target. Couples who are not eligible, or who have not been given a quota for the coming year, are expected to use contraceptives, or to abort if they experience a contraceptive failure. Couples with two living children are under strong peer pressure to accept sterilization.

In this tightly controlled system, few carrots are offered to reinforce the power of the stick:

> To facilitate contraceptive use, acceptors are compensated for time and effort lost in accepting contraceptives. Days of leave are given for IUD insertions, sterilizations, or abortions. These are defined not as incentives for acceptance, but as compensation, which is especially important for poor people, to defray the real costs of contraception. Compensation rates have been set by the state for state employees. Rural workers obtain compensation decided upon locally, although the government encourages a standard rate for all units.

Thus, Communist China skilfully combines a strong central policy with insistence that the people themselves enthusiastically and "voluntarily" identify with official policy:

> Peer pressure and community norms are not left to themselves, however, and voluntarism does not mean letting people do as they please. The will to direct is strong, as it is in any revolution, but the emphasis on local mobilization through persuasion is also strong. As a 1977 statement, *Population Theory*, explained, "State guidance

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> is not to be equated with issuing administrative orders, which we have always opposed. And people's voluntarism is decidedly not laissezfaire, letting them do what they want."

The Chinese policy embraces many kinds of birth control methods, including abortion. The IUD appears to be the most used method, with an all-China rate of 50 percent (presumably of all contraceptors). Pills are also common, with heavy use characteristic of the urban areas. 32 percent of all contraceptors use the pill in Tientsin proper, 28 percent in the surburbs, and 15 percent in the country areas. Tubal ligation varies from a low of 4 percent in Hengxien rural county to a high of 40 percent in Shanghai. Male sterilizations are highest in Gundung, with 20 percent of all contraceptors, and lowest, with 1 percent, in Hengxien rural county.

Many observers report a dramatic decline in the birth rate:

> . . . Birth rates were in the high 30s or about 40 per thousand, and the population increase was probably about 2 percent per year through 1970. Since that date there has been a dramatic decline in fertility and growth rates. Chen reports an overall crude birth rate of 18, but Banister estimates that with corrections for underreporting, the crude birth rate was probably about 24 . . .

In consequence, China has experienced far greater decline in population growth than India. Contraceptives are less used in India although practices vary by state. The Indian government program places heavy emphasis on male sterilization, with female sterilization second in importance, but with uncertain success. The reaction to control programs in India varies much from state to state and class to class. India is not a single nation with a single culture. It is a highly diverse admixture of races, cultures and peoples, roughly grouped by states. Thus the authors observe that:

> . . . It is often noted, for example, that among the various states of India, some do almost everything well, while others do almost nothing well. Kerala, the Punjab, Gujarat, and Tamil Nadu show effective public programs in a wide variety of areas. These are also states with generally higher levels of socioeconomic development. Uttar Pradesh, Bihar, West Bengal, and Rajasthan have few public programs or development activities that gain recognition for efficiency or effectiveness.

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The authors also report wide variations in the success of fertility control programs in other countries of Asia. In their opinion the success or failure of such programs is not directly linked to prosperity or poverty, but rather to the existance or otherwise of a sense of ethnic unity. The countries which are ethnically homogeneous are more willing to restrict their reproduction as individuals than those in which a sense of ethnic diversity and ethnic competition is present. This could partly explain the failure of the white majority population to reproduce adequately in the Western countries, while ethnic minorities in the same countries maintain a self-conscious enthusiasm for large families and an expressed awareness of the value of numbers for the political advantage of their group as an ethnic entity:

> South Korea, Taiwan, Singapore, and Malaysia stand out as usually effective governing systems that have produced a broad-based pattern of modern economic development. Nepal, Bangladesh, Iran, and the Philippines have more detractors than admirers in the realm of development promotion. Note that the latter list includes the very poor, the relatively wealthy, and the not-so-badly off, indicating that whatever the source of weakness in development activities, it is not simply that of financial resources.
>
> Both Malaysia and South Korea score high on our measures of political-administrative system strength, and common impressions tend to support this measurement. What appears critical in explaining the difference in family planning cost-effectiveness is the homogeneity of the population. Korea has a highly homogeneous population. Malaysia's population is divided by powerful ethnic differences, especially between the Malays and the Chinese. It is not usual to find that population policies in ethnically divided populations raise delicate political issues. In countries as different as Sri Lanka, India, and the United States, public fertility limitation policies raise fears of radical changes in ethnic balances, or at worst fear of genocide.

The same problem, a consciousness that population size means more influence for future generations — if only by weight of sheer numbers — bedevils attempts by Western international organizations to attempt to aid birth control measures in those Third World territories that need them the most. World opinion has not been solidly behind family plan-

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ning programs:

> The many objections to modern population planning can be classified under four major headings. First, some object to population planning in general, arguing that there is no population problem at all. Second, some object to international assistance in population planning, arguing that this is simply a case of the imposition of Western values and aims on the Third World. Third, there are objections to the manner in which population assistance is offered. Paralleling John Stuart Mill's indictment of British colonialism as a marvelous form of outdoor relief for the unemployable British gentry is the argument that modern population assistance is merely a form of outdoor air-conditioned relief for a new class of world bureaucrats, employable, perhaps, but not very effective. Fourth and finally, there is objection to the character of family planning programs themselves as inappropriate and ineffectively organized. This constitutes a substantial list of charges . . .

Nevertheless, the authors stress the urgency of the population crisis — a call for action that is repeated so often with so little little result:

> For most of the past eight thousand years or so, the growth of the human population has been less than 0.1 percent per year. For the past three centuries, the rate of growth has been increasing, until now world population growth is about 2 percent per year. It is common to note that this rate of growth cannot continue for long without radical changes in the human environment. For example a 2 percent growth for the next three centuries would give us a world population of about 1500 billion, compared with the approximately 4 billion who exist today. Further, if this growth continued into the future for a span equal to that of the Christian era, there would be sufficient human beings to cover every bit of matter known in the entire universe . . .

The authors note that in the tropical and semi-tropical Asian, African and Latin American world is not following the demographic history of the Western world, — the population is not declining :

> . . . the industrial world passed through a demographic transition, from high natural fertility and rapid growth to

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controlled low fertility and low growth. The nonindustrial world has entered the demographic transition with its declining mortality, but remains marked by high fertility.

All in all, the authors reach one principle conclusion. The Third World population explosion is not yet yielding to the present efforts of governments to control it, largely because most government programs lay emphasis upon the need to restrict hardship, disease and famine, rather than on the need to lower the population level. They conclude:

> Given this situation, it is not the world's population, but the non-industrial world's population that will people all the known matter in the universe over the next two thousand years.

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A TUMPLINE ECONOMY: Production and Distribution Systems in Sixteenth-Century Eastern Guatamala
Lawrence H. Feldman
Foundation for Latin American Anthropological Research, Culver City, California

To recreate living conditions in the late prehispanic and colonial periods a variety of sources have furnished unsurpassed accounts of Guatamalan history: books, colonial government records and censuses, relaciones of Spanish conquistadores, and ethnolinguist materials combine to show how goods were manufactured and transported to the consumer, and how large district markets and trade fairs were organized. Described in detail are the various merchant classes, their use of money, and the incidental effects of tribute.

Food was the most important trade commodity. Farming and game preserves required a fairly sophisticated knowledge of land and land management — yet tools and planting techniques had hardly changed over the centuries. Maize and cacao especially provided an important key to food supply and economy. The delivery of a variety of meats and fishes rested with skillful hunting and trapping. Similarly, the harvesting of tropical fruits and vegetables — and wild herbal plants — was performed with great care.

The degree to which artifact manufacture was specialized is surprising: metates, for example, were made in only a few towns. Timber, bark and paper, leaves and reeds, maguey and cotton products were also localized, whereas gourd artifacts were almost universal. Pottery manufacture and trade were extremely well organized in Guatemala, so brisk was the demand everywhere — both for everyday use and for grave offerings. Stone for building and for ornaments was also traded.

Unique specialties developed: hunting rare animals for furs and hides, producing salt and honey, and collecting resins and narcotics (including tobacco) are described. Even more remarkable was traffic in exotic feathers, precious metals and gems, and oceanic shells and cacao — both as money and as a beverage food. The expected high correlation between food production and population traces the efficiency of the Indian economy, both before and after the Spanish intervention. *A Tumpline*

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Economy vividly furnishes a microcosm of everyday Guatemalan life.

THE MAYA'S WORDS
edited by Thomas Ballantine Irving
Foundation for Latin American Anthropological Research, Culver City, California

Art historians and archaeologists have long noted that many events of the Popol-Vuh have been superbly illustrated in native art long before the work was recorded (about 1701) by Dominican father Fray Francisco Ximenez. The Classic Maya of the eighth century A.D. had depicted many scenes on contemporaneous ceramic, mural, and monumental art, confirming in an impressive and convincing way the historical authenticity and consistency of legends told and retold for centuries. This anthology contains more than a dozen full-page examples of illustrative material, described both historically and artistically.

TSEWA'S GIFT: Magic and Meaning in an Amazonian Society
Michael F. Brown
Smithsonian Institution Press, Washington, D.C.

Magic has been a central concern of anthropology since the emergence of the discipline. The apparently illogical character of magic confronts social science with a riddle: how can people with an eminently practical grasp of the surroundings — indeed, whose empirical knowledge is often astonishingly sophisticated — subscribe to beliefs and practices that seem to us self-evidently false?

In this book, Michael Brown explores this problem through a detailed analysis of the uses and meaning of magic among the Aguaruna Indians of northern Peru. Brown describes the socioeconomic setting of Aguaruna life and then explores the Aguaruna world view, embodied in magical songs and practices associated with hunting, horticulture, and domestic relations. He concludes with an epilogue assessing the changes that are taking place in Aguaruna society and speculates on the future of magic among a people who are increasingly obsessed with acquiring digital watches and polyester trousers.

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TRADITION AND CHANGE ON THE NORTHWEST COAST

Ruth Kirk

University of Washington Press, Seattle, Washington

Native elders remember well the last of the old days. The vivid memoires of these living links to the past have the vitality and immediacy – as well as the authenticity – of those who have lived the traditional way and experienced the transition to the new. In the short space of two generations, they have gone from travelling the coast in canoes to flying in floatplanes.

Four particular native groups are the the focus of this book: the Makah, Nuu-chah-nulth (Nootka), Southern Kwakiutl and Nuxalk (Bella Coola). Although these groups speak different languages, they have close cultural ties.

In many ways this book is a native chronicle about being native, for first-person accounts enliven every facet of life in times past: the complex social structure based on kinship, rank and the potlatch; ceremonials and religion; gathering food, hunting and fishing; wood-working and basketry; trade, travel and conflict; the environment, prehistory and archaeological discoveries; the arrival of Whites and the fur trade, followed by settlement, and the consequences of "modernization."

PINTUPI COUNTRY, PINTUPI SELF: Sentiment, Place, and Politics among Western Desert Aborigines

By Fred R. Myers

Smithsonian Institution Press, Washington and London

The Pintupi – a hunting-and-gathering people of Australia's Western Desert – were among the last Aboriginals to come into contact with White society. Despite their intended relocation in central Australian settlements, they have managed to preserve much of their traditional culture and social organization. This book presents a comprehensive ethnographic interpretation of the ways in which Pintupi politics, cosmology, kinship systems, nomadic patterns, and social values reinforce and sometimes contradict each other.

Fred Myers proposes that the Aboriginal mythological construction known as The Dreaming symbolically links everyday Pintupi life to the enduring features of the totemic landscape

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and provides a timeless order. His analysis focuses on the balance achieved by this small-scale, egalitarian society between their sense of personal identity and of individual autonomy and their transcendental emphasis on "relatedness." "Pintupi country," in this view, is not merely an ecological institution of landownership but also an instructive example of how prehistoric gemeinschaft societies existed free from the complexities of modernization and gesellschaft conditions.

SCULPTURE IN THE KINGDOM OF QUITO
Gabrielle G. Palmer
The University of New Mexico Press, Albuquerque

In this book, the author has limited herself to a narrow topic — carved wooden statuary based on the human figure — to allow herself a carefully defined focus for her twofold purpose: to present the stylistic currents in sculpure in Quito from the Spanish conquest in 1534 to Ecuador's declaration of full independence in 1830, and to offer a new view of the terms Renaissance and Baroque as they relate to Spanish colonial art.

Gabrielle Palmer identifies the principal Spanish statues imported to Quito in the sixteenth and seventeenth centuries and then traces the rise of an indigenous style in the eighteenth and nineteenth centuries. She maintains that Quitenian sculpture cannot be viewed solely as a deviation from European prototypes. Its style and originality should be recognized as an authentic expression of distinctive creativity that both anticipated, reflected, and provided the psychological foundation for the revolutionary colonial movement that brought Latin American independence from Spain. Thus, Baroque art in Quito is portrayed in a new and broader context.

VIOLENT ORIGINS
Walter Burkert, Rene Girard, and Jonathan Z. Smith
Stanford University Press, Stanford, California

Burkert, Girard, and Smith advance contradictory theories about the nature and origin of ritual sacrifice and the role sacrifice plays in religion and culture, in a collection of papers and conversations.

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Girard and Burkert present different versions of the same conviction: that a single theory can account for ritual, a theory that posits original acts of group violence. Smith sharply questions the possibility of such a general theory. Among the highlights of this stimulating interchange is a searching criticism of Girard's theory of generative scapegoating, and a challenging of Burkert's theory of the origin of sacrifice in the hunt by Smith's argument, posed as a *jeu d'esprit*, that sacrifice originated with the domestication of animals.

INITIATION: Ritual Drama and Secret Knowledge Across the World
J.S. La Fontaine
Manchester University Press, Wolfeboro, New Hampshire

A fascinating area of human activities, initiation rites have been the focus of much attention. Using detailed studies drawn from all over the world, including secret societies ranging from the Freemasons to the Mau-Mau, the author shows the importance of rituals in maintaining crucial social boundaries. The elements of these ceremonies – secrecy, oath-taking and physical ordeals – are vital to the symbolic transformation of the individual, legitimizing status and power and, simultaneously, reinforcing traditional authority. Whilst concentrating on one kind of ritual, he suggests that the implications of *initiation* are much wider and suggest a way of interpreting collective religious behavior.

La Fontaine takes the view that initiation rites have much in common with plays. As artificial experiences they make use of deceptions and symbolism. A Masonic candidate undertaking a journey planned for him by the Lodge members is deliberately confused and made to feel helpless, before being "killed" and raised from the grave. Shared secrets also create the feeling of shared bonds between the members of a secret society; ordeals involving privation and pain stress the significance of the event and the authority of the society and of those presiding over the initiation. At the same time ritual practices gain authority if they are perceived as ancient customs, with deep roots in the social life and historical character of the community. This book contains little, perhaps, that is new, but is summarizes well the corpus of research on the subject of its title.

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EVOLUTION, CREATIVE INTELLIGENCE AND INTERGROUP COMPETITION

editor: Alan McGregor
The Cliveden Press, Washington, D.C.

This is a collection of papers by diverse academic authorities which have been effectively edited by Alan McGregor to produce a coherent sequential whole. In short, the various authors' works fit together as though they had been written as chapters to a single book.

The common theme is an evolutionary explanation of the role of group competitiveness in fostering the growth of creative intelligence.

Recent research in psychology, medicine and genetics has demonstrated the importance of heredity in determining the potential limits of behavioral reactions by living organisms, including man. As Professor Mark Graubard of the University of Minnesota argues, the genetic potential for creativity differs widely from one individual to another.

Taking this argument as his base of reference, Professor Umberto Melotti of the University of Pavia shows that given the proposition that all living organisms have the capacity to overreproduce themselves, it follows that two separate breeding populations possessing disparate gene pools, but depending on similar resources, will find themselves in competition with each other for procreational success and subspecific survival if they penetrate the same habitat. It is thus a matter of concrete importance for the proper understanding of human conflict and international relations to realise the evolutionary implications of intergroup competition and intergroup selection.

Alan McGregor suggests that if intergroup competition has evolutionary significance, then certain aspects of group behavior, notably those which promote intragroup cooperation and intergroup competitiveness, may well have deep evolutionary roots. To the extent that either innate or learned patterns of group behavior promote or hinder the intergenerational survival of distinctive breeding populations, the course of evolution could be profoundly affected.

David de Laubenfels of Syracuse University takes the discussion beyond theoretical fields by examining the prehistory of various human subspecies during the Upper Paleolithic and

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subsequent cultural eras, applying the principles of group evolution to actual hominid prehistory. This leads the debate into contemporary times, and Professor Martin of Lakehead University discusses the implications for human evolution in the event of an end to the present world population explosion and its replacement by a state of zero population growth – with a concomitant decline in the impact of natural selection on the direction of human evolution.

This is a fascinating text which will grasp and hold the attention of all who are concerned with the study of human evolution and human behavior, population genetics, sociobiology, and political science. The authors present clearly reasoned arguments concerning the past, present and possible future direction of human social evolution, and pose tantalizing concepts which hold the attention of every imaginative scholar who is in any way involved in the interrelationship between human groups, societies and states.

CONTINUITY AND COLONIZATION:
The Evolution of Kentish Settlement
Alan Everitt
Humanities Press, Atlantic Highlands, New Jersey

In this study of the evolution of Kentish settlement from the end of the Romano-British period and the coming of the 'English' down to the thirteenth or fourteenth century, the author indicates places and neighborhoods where continuity of occupation with the Roman era seems likely; pre-English settlement as such is not discussed except where there seems reason to suspect that occupation was indeed continuous. Extensive use is made of the evidence of place-names, territorial relationships, ecclesiastical development, church-dedications, types of settlement, and the topography of woodland, droveways, parish boundaries, and other landscape features in order to reconstruct the pattern of early Kentish estates and the gradual reclamation of the outlying lands, originally used as pastoral and transhumant areas. These approaches have invoked extensive use of cartographic and landscape evidence and the development of some novel techniques in interpreting such data. In the final chapter an attempt is made to assess the extent to which the abundant early Kentish evidence may shed light on the evolution of settlement elsewhere in England.

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This is an invaluable book for scholars interested in the history of North Germanic settlement of the British Isles, not only for its thoroughness, but also because Kent was one of the earliest areas of settlement, with primarily 'Jutish' influence, and one which presented a social and cultural uniqueness for centuries after the Kingdom of Kent was absorbed into Wessex-dominated England.

The author holds the view that the settlement of Kent by men and women who subsequently came to call themselves "Kentings" cannot be proven to have been carried out solely by Jutes from Jutland, although he accepts the term Jutes and uses it. Alternatively he at times uses the term "Teutonic" to refer indiscriminately to Germanic settlers whose precise origin is not known. He holds the modern view that while the various peoples who settled the British Isles as "Anglo-Saxons" and "Jutes" all came from Northern Germany, and were either West German or North German speaking peoples, the complex of small independent kin-groups who lived in Northern Germany and Scandinavia cannot always be precisely classified into distinct or separate groups. Instead they are regarded as being essentially a single people who differed from each other only by local graduations, so that many peoples and dialects were intermediate between the polar distinctions of North German, West German, or even Saxon, Angle and Jute.

As to the regional differences in social organization and law which mark out Kent in the early medieval period from the rest of Teutonic England, the author suggests that this might well reflect an archaism in Kent, due to a higher degree of regional isolation from subsequent settlement by the Vikings and from subsequent agricultural developments such as arose in Wessex and Mercia. In other words, the Kentish culture might well have been more widespread in Germanic or Teutonic England during the early period of settlement: a theory that is supported by the fact that parallel traces of Kentish-type social and cultural traits are to be found in other isolated pockets of early medieval England which cannot be associated with specificially Jutish settlement.

The author approaches his subject from a largely topographical standpoint, bringing the evidence of place-name etymology and ecclesiastical records to clarify and reinforce the testimony of the geographical and archaeological data.

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